BRENT SPENCE BRIDGE CORRIDOR PROJECT

ENVIRONMENTAL JUSTICE ANALYSIS REPORT

KYTC PROJECT ITEM NO. 6-17 | ODOT PID 89068
JANUARY 11, 2024

TEAM KENTUCKY TRANSPORTATION CABINET

Ohio Department of Transportation

HNTB

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1. INTRODUCTION

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, ethnicity, income, or national origin, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. The purpose of this report is to identify beneficial and adverse effects of the Brent Spence Bridge (BSB) Corridor Project on environmental justice (EJ) populations (minority or low-income populations) and to determine whether the project will have a disproportionately high and adverse effect on identified EJ populations. This report also documents avoidance, minimization, mitigation, and enhancement measures incorporated into the project.

1.1 Project Description

The BSB corridor consists of 7.8 miles of I-71 and I-75 connecting southwest Ohio and northern Kentucky. The corridor is located within the Greater Cincinnati/Northern Kentucky region and is a major route for regional and local mobility. Regionally, the BSB carries both I-71 and I-75 traffic over the Ohio River and connects to I-74, I-275, and US-50. The BSB corridor also facilitates local travel by providing access to downtown Cincinnati in Hamilton County, Ohio and Covington in Kenton County, Kentucky. The corridor forms a critical part of a major freight route connecting Canada to Florida, carrying more than $1 billion of freight every day and more than $400 billion of freight every year. Traffic congestion continues to hamper freight movement throughout the BSB corridor as evidenced by its ranking at 15 on the American Transportation Research Institute's list of the nation's top truck bottlenecks for the year 2023.

The project's primary features are illustrated in Figure 1. The project will:

- Reconstruct I-71/I-75 and add one lane in each direction;
- Rebuild the overpass bridges and interchanges in the corridor and add a new exit at Ezzard Charles Drive in Ohio;
- Construct a collector-distributor (C-D) roadway system between West 12th Street in Kentucky and Ezzard Charles Drive in Ohio;
- Extend frontage roads connecting Pike Street to West 4th Street and West 5th Street in Kentucky;
- Add C-D lanes between Dixie Highway (US-25) and Kyles Lane (KY-1072) in Kentucky;
- Rehabilitate and reconfigure the existing double-decker BSB to carry three lanes of local traffic on each deck as part of the C-D roadway system; and
- Build a new double-decker companion bridge west of the existing BSB to carry five lanes of through (interstate) traffic on each deck.

The project will also add sidewalks and shared-use paths on local streets that cross the interstate and incorporate aesthetic treatments throughout the corridor.

The project will be delivered in three, nonsequential phases, as shown in Figure 2. Phases I and II are following a traditional design-bid-build procurement process, and Phase III is following a progressive design-build procurement process.

Figure 1: BSB Corridor Project Overview

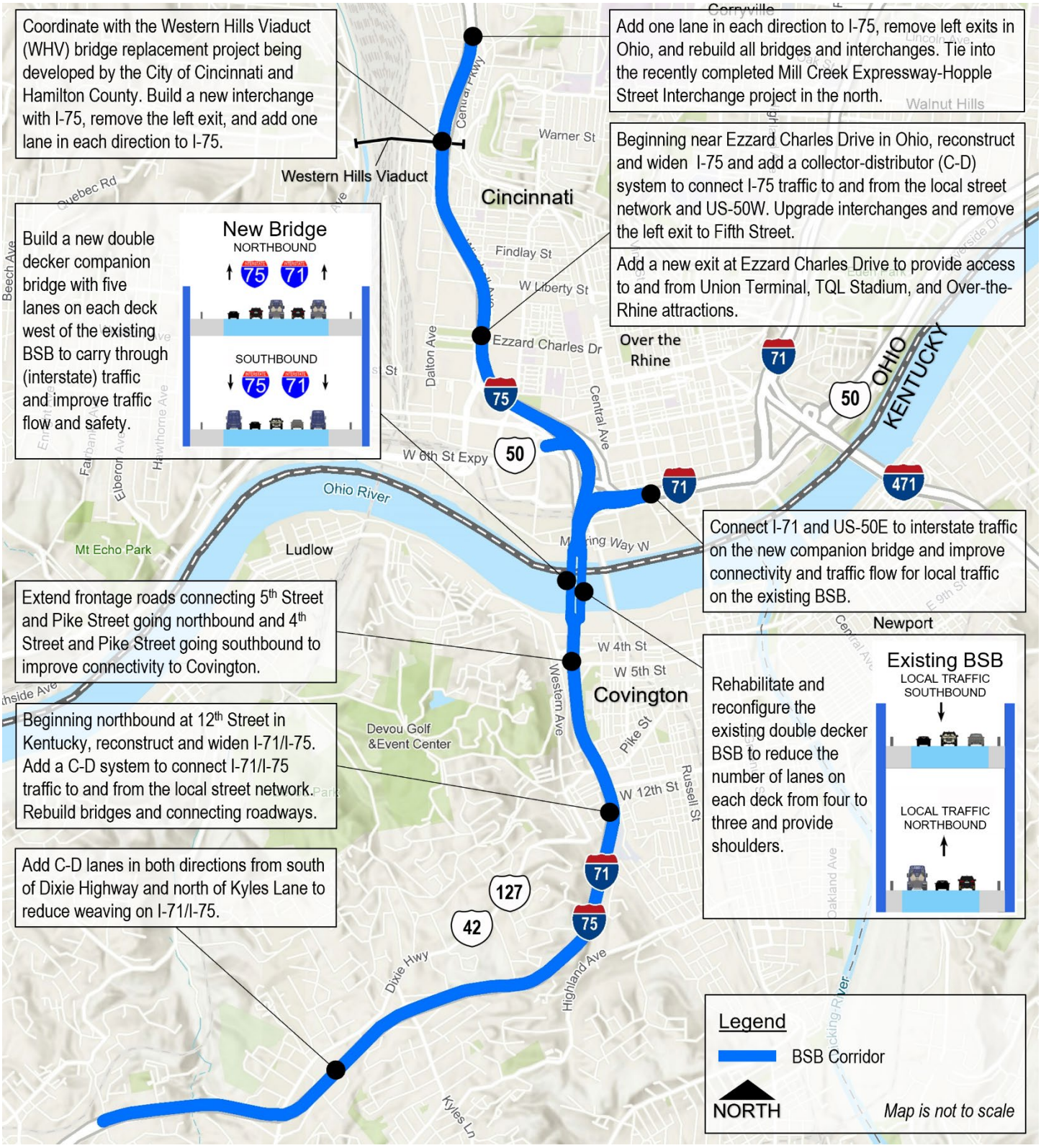
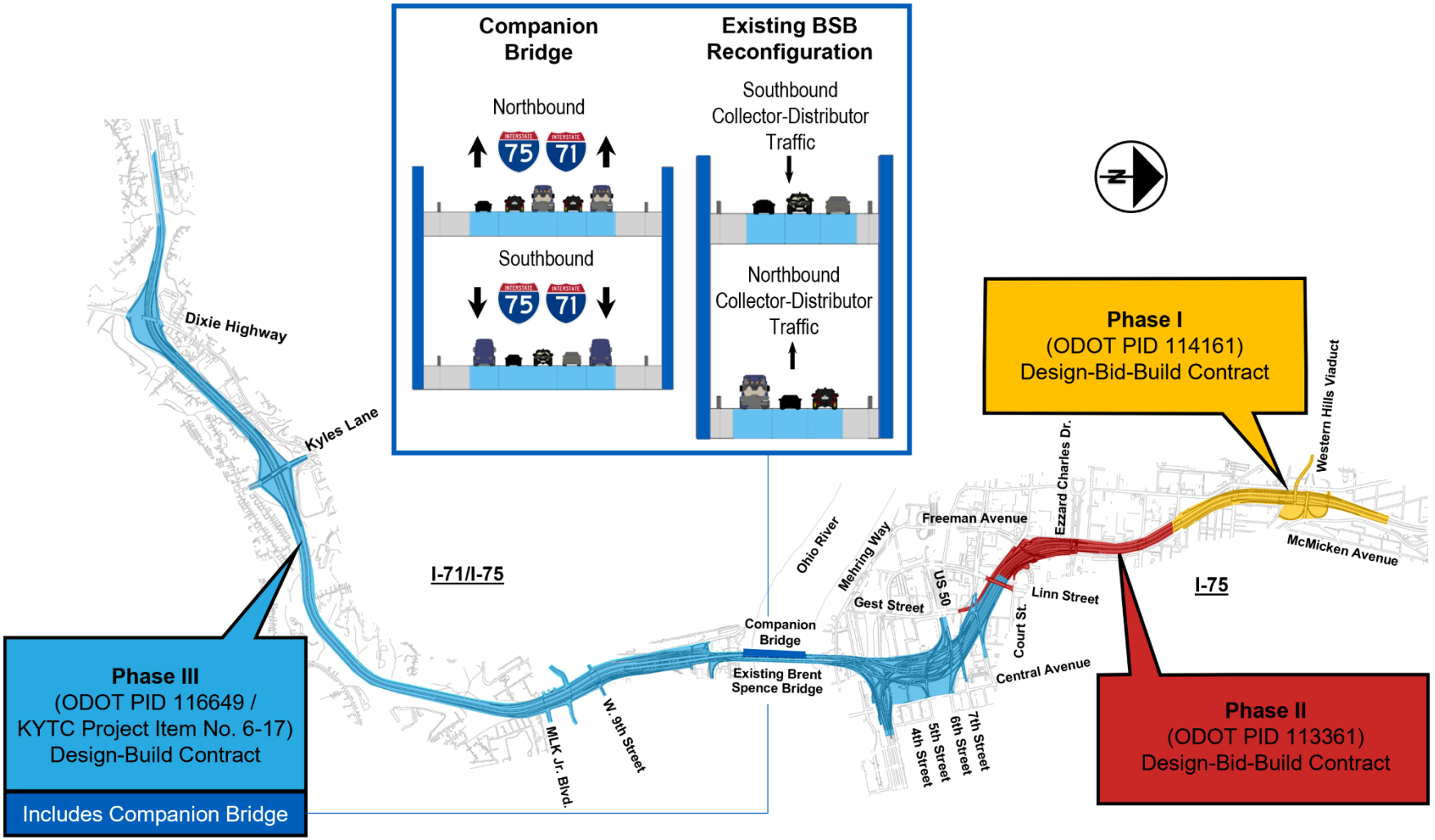


Figure 2: Brent Spence Bridge Corridor Project Phases



1.2 Project History

On October 14, 2004, The Kentucky Transportation Cabinet (KYTC) and the Ohio Department of Transportation (ODOT) recognized the need to improve the BSB corridor and formally entered into an agreement to jointly develop and deliver a project to replace the existing BSB. That agreement has been updated and modified five times from 2004 to present, including a supplement dated December 12, 2012 that established a Bi-State Management Team to focus on procurement, financing, and project communications.

KYTC and ODOT developed a range of alternatives for improving the BSB corridor. Through a series of preliminary engineering and planning studies coupled with extensive public outreach and stakeholder involvement, KYTC and ODOT narrowed the range of alternatives to two feasible alternatives, which were evaluated in an Environmental Assessment (EA). In August 2012, the Federal Highway Administration (FHWA) issued a Finding of No Significant Impact (FONSI) identifying Alternative I as the selected alternative for the BSB Corridor Project. Reevaluations of the EA/FONSI subsequently completed in 2015 and 2018 concluded that the 2012 FONSI remained valid.

Since 2012, KYTC and ODOT have conducted a Value Engineering Workshop (October 2012), a Performance-Based Design Workshop (December 2019), and other studies and activities to identify and evaluate measures to improve the design and constructability and to reduce the cost of the project. Further improvements and cost saving measures were identified as Phases I and II of the project progressed through detailed design development (see Figure 2). These combined efforts culminated in a set of refinements to Selected Alternative I, which have been designated Refined Alternative I (Concept I-W), referred to hereinafter as Concept I-W.

KYTC and ODOT are preparing a supplemental EA for Concept I-W to assess revised regulatory requirements, changed site conditions, design refinements, impact changes, further environmental commitments (enhancements and mitigation), and additional NEPA reevaluation and coordination efforts that have occurred since the 2012 EA/FONSI. This report is one component of those efforts.

1.3 Previous Environmental Justice Evaluation

The 2012 EA/FONSI evaluated EJ considerations related to the feasible alternatives for the project. Data from the U.S. Census Bureau for the year 2000 was reviewed at tract and block group levels in both states to identify EJ populations within the study area. In Kentucky, a direct mailing survey was also distributed due to the higher number of proposed residential relocations. The burdens and benefits of anticipated impacts were evaluated to determine whether impacts on EJ populations were disproportionately high and adverse.

The factors considered in the 2012 EA and a brief summary of the findings are listed below:

- Residential Relocations: A *Relocation Assistance Program Conceptual Survey (January 2007)* for Kentucky and a *Conceptual Stage Relocation Report (February 2007)* for Ohio were completed for Selected Alternative I (from the 2012 EA/FONSI). Residential relocations, some of which occurred in EJ areas, were only necessary in Kentucky. The evaluation found that housing of comparable prices within the income ranges of displaced residents was available to address all required relocations, although

housing of last resort could be necessary for the displacement of low-income residents and renters. The project's FONSI included an environmental commitment that the acquisition of property for right-of-way would be in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

- Community Facilities: Selected Alternative I (from the 2012 EA/FONSI) impacted Goebel Park/Kenney Shields Park in Kentucky and Queensgate Playground and Ball Field in Ohio. Mitigation measures were documented in a Section 4(f) *de minimis* finding for Goebel Park/Kenney Shields Park and a Memorandum of Agreement (MOA) for the Queensgate Playground and Ball Field.
- Business Relocations: Selected Alternative I (from the 2012 EA/FONSI) did not require business relocations in EJ areas.
- Neighborhood and Community Cohesion: For Selected Alternative I (from the 2012 EA/FONSI), the majority of the construction fell within the existing right-of-way. Right-of-way acquisition occurred adjacent to the existing right-of-way, which avoided creating isolated pockets of residential households.
- Access/Travel Patterns: In Kentucky, Selected Alternative I (from the 2012 EA/FONSI) altered access to the Lewisburg neighborhood in Covington by closing Lewis Street at Pike Street. Additionally, EJ respondents indicated in a survey that access to public transportation was important, and many residents would be adversely affected if relocated to areas without transit access. Existing public transit locations were anticipated to remain in place, and future plans for transit would not have been limited by the selected alternative.
- Noise: Noise impacts were identified for Selected Alternative I (from the 2012 EA/FONSI), and noise barriers were recommended in three locations.
- Denial of Benefits and Burdens: The benefits of Selected Alternative I (from the 2012 EA/FONSI) included improved safety, regional connections, traffic flow, and corrected geometric deficiencies. EJ populations would not be denied these benefits and would have the same access to them as other populations.

The 2012 EA/FONSI concluded that the project's effects on EJ populations were similar to effects borne by non-EJ communities. No adverse impacts specific only to EJ communities were documented. In addition, overall project effects would not be appreciably more severe or greater in magnitude than effects on non-EJ communities. Therefore, the 2012 EA/FONSI concluded that Selected Alternative I would not result in disproportionately high and adverse effects on minority or low-income populations.

1.4 Purpose and Need

The purpose and need for the project is to:

- Improve traffic flow and level of service;
- Improve safety;
- Correct geometric deficiencies; and
- Maintain connections to key regional and national transportation corridors.

2. METHODOLOGY

The following statutes and guidance documents form the framework for the EJ analysis methodology:

- Presidential Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994).
- Presidential Executive Order 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All (April 21, 2023).
- United States Department of Transportation (USDOT) Order 5610.2C USDOT Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (May 14, 2021).
- FHWA Order 6640.23A FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (June 14, 2012).
- FHWA Guidance on Environmental Justice and NEPA (December 16, 2011).
- Promising Practices for EJ Methodologies in NEPA Reviews: Report of the Federal Interagency Working Group on Environmental Justice & NEPA Committee (Promising Practices Report) (March 2016).
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.
- KYTC Environmental Justice Guidance and Methodologies (2021).
- ODOT Environmental Justice Guidance (January 2023).
- Ohio-Kentucky-Indiana (OKI) Regional Council of Governments Participation Plan (February 2022).

This EJ analysis has been conducted in accordance with all applicable federal and state guidelines. Where differences in methodology occur, the most conservative and inclusive approach has been followed.

2.1 Study Area

The study area for this analysis is based on an EJ study area that was developed in 2015 in coordination with FHWA, KYTC, and ODOT. It was established in consideration of the project's traffic influence area, natural and human-made geographic boundaries, and general demographic composition. Because this analysis uses more recent census data from the American Community Survey (ACS), the study area was updated to reflect the block group boundaries of the 2020 decennial census. The current analysis also adds ten census block groups that were not included in the 2015 study area to encompass the northernmost and southernmost project limits. Maps showing the final EJ study area, including these changes, are provided in Appendix A.

The EJ study area encompasses and is larger than the project study area for the supplemental EA. Expanding the EJ study area beyond the project study area provides the most conservative approach to the EJ analysis by capturing the fullest range of potential effects.

2.2 Methodology Overview

This EJ analysis was performed according to the following steps:

1. Identify minority and low-income populations in the EJ study area (see Section 3).
2. Create and carry out a targeted EJ outreach plan (see Section 4).
3. Analyze the effects on minority and/or low-income populations and determine impacts and benefits. Compare the impacts on minority and/or low-income populations with respect to the impacts on the overall population (see Section 5).
4. Evaluate avoidance, minimization, mitigation, and enhancement measures (see Section 6).
5. Identify whether disproportionately high and adverse effects exist (see Section 7).
6. Document findings (see Section 7).

2.3 Identifying Minority and Low-Income Populations

The demographic makeup of the EJ study area was identified using 5-year ACS estimates for 2016-2020. This data was the most current available at the time of the analysis and provides the overall percentage of individuals in each census block group that belong to a minority group or are low-income. The overall percentage of minority and low-income individuals was calculated for the EJ study area, as well as for the cities, counties, and states that intersect the EJ study area.

In accordance with Executive Order 12898 and the *Promising Practices Report*, minority and low-income populations within the EJ study area were identified using a meaningfully greater analysis, which identifies areas where the minority or low-income population percentage is meaningfully greater than the minority or low-income populations within an established reference community. Several reference communities were evaluated, including OKI's tri-state region; Hamilton and Kenton counties; the combined cities of Covington, Fort Mitchell, Fort Wright, Park Hills, and Cincinnati; and the EJ study area. While there are slight variations in the results depending on the specific reference community, none of those variations is substantial enough to affect the overall conclusions of the EJ analysis. The EJ study area yields results that are consistent with the other reference communities examined, reflects the presence of minority and low-income populations, and is sufficiently large to provide context for the disproportionate effects analysis. Therefore, the EJ study area was chosen as the reference community, and any percentage higher than the reference community was deemed to be meaningfully greater.

Demographics were analyzed at the block group level, as defined by the U.S. Census Bureau 2020 decennial census geographic boundaries. The meaningfully greater threshold established to identify EJ populations (EJ communities) was any block group that contained a higher percentage of minorities and/or low-income individuals than the overall EJ study area.

Orders issued by USDOT and FHWA define low-income as a person whose median household income is at or below the Department of Health and Human Services guidelines. This EJ analysis designates low-income as

1.99 times the poverty thresholds established by the U.S. Census Bureau.[1] This represents a more inclusive definition for low-income that exceeds the minimum federal poverty guidelines and the approach used for the 2012 EA/FONSI. This analysis methodology represents a strong commitment by KYTC and ODOT to going above and beyond in addressing EJ on the BSB Corridor Project.

3. POPULATION CHARACTERISTICS

The following sections describe population characteristics for minority and low-income populations in the EJ study area. Mapping showing the locations of EJ populations is provided in Appendix A. Detailed breakdowns of minority and low-income population by census block group are provided in Appendix B.

3.1 Minority

The U.S. Census Bureau defines minority race and ethnicity as persons who self-identify as one or more of the following: Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Hispanic or Latino. According to U.S. Census data, 32.5 percent of the population of the EJ study area belongs to a minority group. Table 1 compares the minority population in the EJ study area to the states, counties, and cities in which it is situated. In Kentucky, 8 of 47 block groups have minority populations, compared to 20 of 29 block groups in Ohio. Within the EJ study area, 21.8 percent of the population self-identifies as African American, 5.2 percent self-identifies as Hispanic or Latino, 3.5 percent self-identifies as two or more races, 1.7 percent self-identifies as Asian, and 0.2 self-identifies as another minority race.

Table 1: Population Characteristics – Minority

		Minority	
Geography	Total Population	Population	Percentage
State of Kentucky	4,461,952	710,214	15.92%
State of Ohio	11,675,275	2,533,905	21.70%
Campbell County, KY	93,608	7,467	7.98%
Kenton County, KY	166,552	19,787	11.88%
Hamilton County, OH	815,790	288,846	35.41%
Covington, KY	40,466	9,381	23.18%
Fort Mitchell, KY	8,278	424	5.12%
Fort Wright, KY	5,766	633	10.98%
Park Hills, KY	2,993	636	21.25%
Cincinnati, OH	302,687	156,854	51.82%
EJ Study Area	71,496	23,199	32.45%

[1] https://www.irp.wisc.edu/resources/what-are-poverty-thresholds-and-poverty-guidelines/

3.2 Low-Income

According to U.S. Census data, 44.6 percent of the population of the EJ study area falls below 1.99 times the poverty level. Table 2 compares the low-income population in the EJ study area to the states, counties, and cities in which it is situated. In Kentucky, 21 of 47 block groups have low-income populations, compared to 15 of 29 block groups in Ohio.

Unhoused individuals are sometimes present in public spaces in and near the project area, including areas under bridges in the transportation right-of-way. Unhoused individuals who may be present in the project area are transient in nature, and the number of individuals varies at any given time. There are several organizations within the region that provide support to unhoused persons. Within ½-mile of the project area, the David and Rebecca Barron Center for Men provides beds, meals, and support services for men who are unhoused. A Winter Shelter providing shelter to unhoused single men and women operates at the same location between December and February. Neither these facilities nor the support services they provide for unhoused individuals will be impacted by Refined Alternative I (Concept I-W).

If unhoused individuals are impacted by construction, KYTC and ODOT will coordinate with local agencies to notify such individuals through existing state and local processes.

Table 2: Population Characteristics – Low-Income

		Low-Income	
Geography	Total Population[1]	Population	Percentage
State of Kentucky	4,322,881	1,539,596	35.62%
State of Ohio	11,350,378	3,460,459	30.49%
Campbell County, KY	90,118	22,851	25.36%
Kenton County, KY	164,265	41,645	25.35%
Hamilton County, OH	798,152	246,341	30.86%
Covington, KY	39,440	16,203	41.08%
Fort Mitchell, KY	8,231	1,319	16.02%
Fort Wright, KY	5,755	987	17.15%
Park Hills, KY	2,917	930	31.88%
Cincinnati, OH	291,198	131,267	45.08%
EJ Study Area	70,002	31,228	44.61%

1. Totals are for population for whom poverty status is determined.

4. TARGETED ENVIRONMENTAL JUSTICE OUTREACH

The following sections summarize the outreach efforts conducted by KYTC and ODOT to engage EJ populations at the neighborhood level. Mapping showing neighborhoods in the EJ study area is included in Appendix C. A brief summary of the targeted EJ/neighborhood outreach is included in Appendix D. Further details about all public involvement activities for the project, including detailed summaries of EJ/neighborhood outreach meetings and responses to all comments received, are provided in the *Public Involvement Summary (January 2024).*

4.1 Environmental Justice Outreach Strategy

The EJ engagement strategy consisted of the following:

- Phone interviews were conducted with the neighborhood associations and community councils in areas where EJ populations were identified (see Section 3) to determine contact information, constituencies/membership, advertising strategies, meeting schedules, and potential meeting locations that are accessible for persons with disabilities and those who are transit dependent. If an EJ neighborhood did not have an organized council, KYTC and ODOT coordinated with the city where the EJ neighborhood was located and members of the Project Advisory Committee to determine the best ways to reach that neighborhood.
- KYTC and ODOT worked with impacted EJ neighborhoods[1] to attend regularly scheduled neighborhood meetings and present the most up-to-date project information and to dialogue about the specific needs of each neighborhood. The Lewisburg and Botany Hills neighborhoods, which border each other, do not have organized neighborhood associations. Meetings in these neighborhoods were combined and scheduled at a venue in Botany Hills that was accessible by transit and by persons with disabilities. Similarly, the Queensgate neighborhood does not have an organized community council; however, this area consists primarily of commercial and industrial facilities with minimal residential land use. The project team determined that the scattered residential areas would have opportunities to attend meetings in adjacent neighborhoods. As a result, a meeting was not scheduled in Queensgate. Finally, the cities of Fort Mitchell, Fort Wright, and Park Hills operate as independent cities without smaller, defined neighborhoods; therefore, the project team attended and presented at meetings organized through city officials.

  KYTC and ODOT advertised the EJ outreach meetings via communication methods each neighborhood group already had in place. Depending on the neighborhood, advertisement methods included neighborhood web sites, Facebook pages, announcements at neighborhood meetings, email notifications, and printed flyers. In the Lewisburg and Botany Hills neighborhoods, the project team emailed meeting flyers to known community contacts and distributed printed flyers at community

[1] For the purposes of neighborhood outreach, impacted EJ neighborhoods were defined as those directly adjacent to the construction limits, as no permanent adverse impacts to traffic, noise, air quality, access, or mobility are anticipated beyond the immediate project area.

facilities and businesses in both neighborhoods. Responding to feedback received during the initial neighborhood outreach, the December meetings were also advertised in the project's e-newsletter.

- KYTC and ODOT held one daytime and one evening broad-scale EJ outreach meeting in each state to engage neighborhoods within the EJ study area that will not be directly impacted by the project. These meetings were promoted via fliers emailed to neighborhood associations and community councils, the project website, the project's December e-newsletter, ODOT District 8's events page, Facebook, X (formerly Twitter), Nextdoor.com, an article in the Northern Kentucky Tribune, and local radio and TV media. Information was also provided to a Cincinnati City Council member, and the City of Cincinnati shared information regarding these meetings on their social media platforms.
- KYTC and ODOT developed a "PublicInput.com" website specific to neighborhoods that was available for the duration of the EJ outreach effort. The site was made available when the first EJ outreach meeting was held, and the comment period ended 16 days after the final meeting. Information about the availability of project materials and the opportunity to comment online through PublicInput.com was available at every EJ outreach meeting and was distributed to each neighborhood group.
- Seven census block groups in the EJ study area have greater than five percent of the population with limited English proficiency. In these census block groups, 86 percent of the individuals with limited English proficiency speak Spanish. Accordingly, advertising materials included information in Spanish offering translation and interpretation services. In addition, information about the meeting was printed in Spanish and distributed in the Lewisburg and Botany Hills neighborhoods based on feedback from a Project Advisory Committee member. Comment forms were also available in both Spanish and English. Finally, the PublicInput.com site provided a "translate" button on the home screen to automatically translate the website text into Spanish and several other languages.

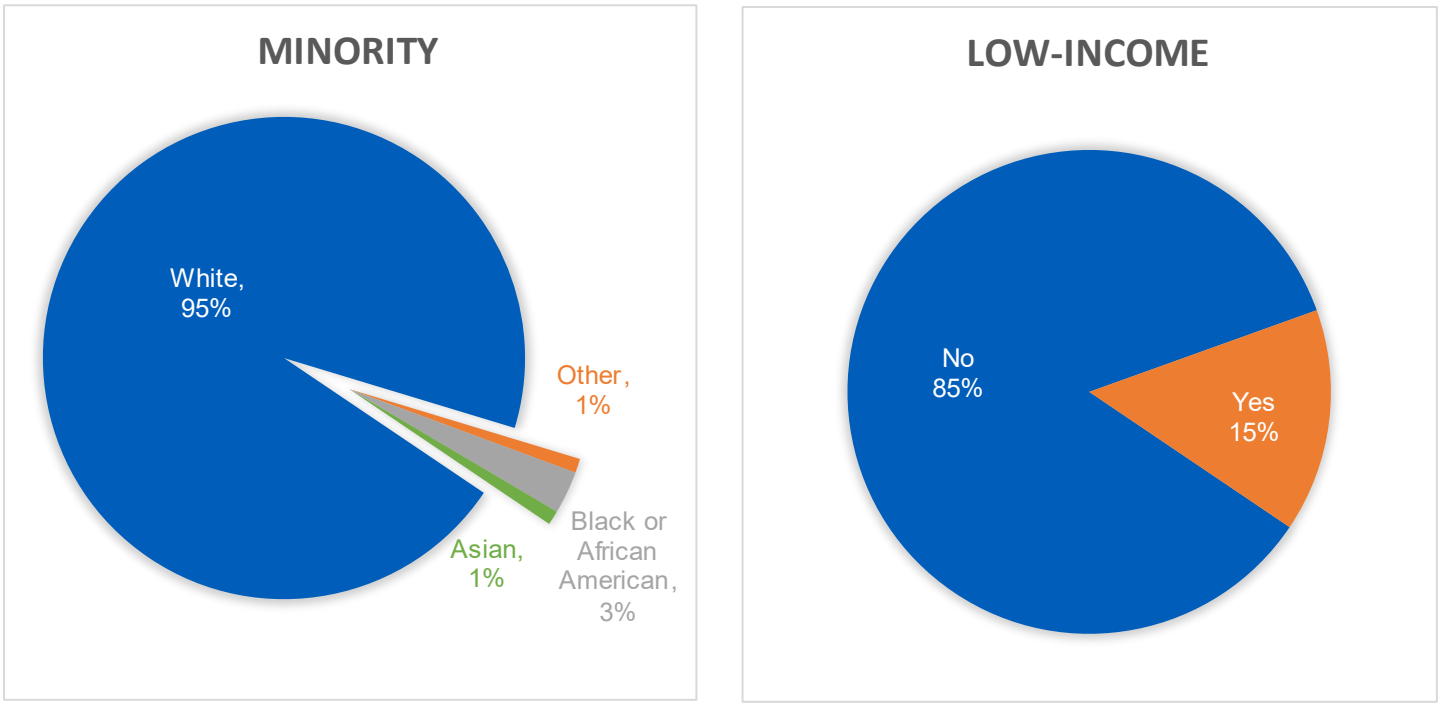
4.2 Environmental Justice Outreach Results

Between November 15, 2022 and December 20, 2022, KYTC and ODOT hosted 16 EJ neighborhood outreach meetings (12 small-scale meetings in individual neighborhoods and 4 broad-scale meetings). A total of 418 people signed in at the meetings, excluding the project team. Comments were accepted on the PublicInput.com site between November 15, 2022 and January 5, 2023. The website was viewed 2,559 times, with 218 individuals choosing to engage by submitting comments or responding to polling questions.

Demographic questionnaires were available at all in-person EJ neighborhood meetings, and polling questions on the PublicInput.com site sought demographic data of participants. Figure 3 displays the level of participation in the neighborhood outreach activities by minorities and low-income individuals. A total of 111 individuals provided demographic information, although not every individual answered every question. Of the individuals who provided demographic information, 5 percent identified as minority, and 15 percent were potentially low-income[1].

[1] It was not possible to directly correlate all answers on demographic questions to U.S. Census Bureau poverty thresholds due to the ranges of responses offered. For example, household sizes were grouped into 1-2, 3-5, and 6+ persons. If a response fell within the range for low-income (defined as 1.99 times the U.S. Census Bureau poverty threshold), the individual was considered to be potentially low-income.

Figure 3: Neighborhood Outreach – EJ Population Participation



4.3 Environmental Justice Outreach Comments

The small-scale EJ neighborhood meetings generally followed an informal format, with a KYTC or ODOT representative walking through a presentation while encouraging those present to ask questions and give feedback throughout. Some small-scale meetings were not conducive to this format due to the large number of people present. In these cases, as well as for the broad-scale neighborhood meetings, the project team made a formal presentation, and attendees were encouraged to review exhibits, ask questions, and offer feedback one-on-one before and after the presentation. During the meetings, questions were posed to the project team and answered in real time. Questions most commonly centered around:

- How traffic will flow through the corridor, including how and when local traffic will enter and exit the C-D roadway system.
- Drainage and flooding issues in the Goebel Park Complex and Peaselburg in Kentucky.
- Noise analysis methodology.
- The timeframe for the project, including sequence of construction.
- Property impacts and right-of-way acquisition.
- Project costs and funding.

Concerns expressed during the meetings, on written comment forms, and on PublicInput.com generally included:

- The desire for noise barriers, specifically in the West End neighborhood in Ohio, the Mainstrasse neighborhood in Kentucky, and southwest of Dixie Highway in Fort Mitchell, Kentucky.
- Volume of truck traffic and associated traffic congestion and noise (particularly the use of engine brakes).
- Traffic impacts during construction.
- Increased traffic and associated noise and air quality concerns.
- Multimodal accommodations, including connections on local streets that cross I-71/I-75.
- Improving connections across I-75 in Ohio.
- Reducing the project footprint.
- Creating additional developable land.
- Lowering (trenching) and/or constructing freeway caps on I-75 in Ohio.
- Adding fixed transit (such as light rail) to the project.

No additional small pockets of EJ populations were identified during the targeted EJ neighborhood outreach activities. To the extent the project team was able to ascertain, minority and low-income individuals asked questions and offered comments and feedback consistent with other participants in the neighborhood outreach. The project team did not identify any concerns unique to EJ populations. Likewise, unanticipated additional impacts on EJ populations were not identified during the EJ outreach.

4.4 Environmental Justice Outreach Outcomes

Community members generally supported the refinements, mitigation, and enhancements incorporated into Concept I-W, including the reduction of the project footprint, the incorporation of additional noise/visual screening barriers[1], measures to reduce flooding and combined sewer overflows, new and improved multimodal facilities, additional developable land, and aesthetic features. During the EJ outreach comment period, community members offered additional feedback and suggestions. Every comment was evaluated by the project team, and individual responses were prepared and published on the project website. Individual responses to all comments received during the EJ outreach are provided in the project's *Public Involvement Summary.* In addition to the enhancements listed above, which were already included in the project at the time

[1] Noise barriers have been determined to be reasonable and feasible per 23 CR part 772 and the applicable state noise policy and are proposed mitigation for noise impacts. Noise/visual screening barriers do not meet one or more of the reasonability criteria but are proposed enhancements to provide noise reduction above and beyond the requirements of 23 CFR part 772 and the applicable state noise policy.

of the EJ outreach meetings, KYTC and ODOT have incorporated several refinements into Concept I-W in direct response to the comments and feedback from EJ communities, including:

- KYTC will implement measures to improve safety for pedestrians and school-age children who cross the northbound entrance ramp from Dixie Highway to I-71/I-75. Measures will include reducing the length of the crosswalk, installing warning signs, and enhancing the pavement markings to better define the crosswalk for pedestrians and vehicles.
- KYTC is proposing a noise/visual screening barrier in the vicinity of Maple Avenue, south and west of Dixie Highway in Fort Mitchell.
- KYTC is proposing a noise/visual screening barrier in Mainstrasse, including in the vicinity of the Goebel Park Complex.
- During final design, KYTC has committed to coordinating with the City of Covington to evaluate the use of transparent noise barriers in some locations to preserve views of Goebel Park from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods.
- ODOT has committed to work with the City of Cincinnati to conduct before/after surveys of roadways impacted by increased traffic during construction. ODOT will restore roadways to pre-construction conditions once the project is complete.
- During final design, KYTC and ODOT will evaluate reconfiguring the lanes on the Clay Wade Bailey Bridge to add bicycle lanes.

4.5 Open-House Project Update Meetings

In August 2023, KYTC and ODOT held two project update meetings to provide information about the project's status, including Concept I-W, anticipated impacts, proposed mitigation and enhancement measures, and the progressive design-build process. The meetings were targeted toward a broad public audience, including EJ communities. The meetings were advertised via the project website, press releases, distribution of an advertisement flyer to the Project Advisory Committee and the project Diversity & Inclusion Outreach Committee, a notification via the project mailing list, posts on the project social media pages, Facebook events, and coverage in local print and television media. The meetings were hosted in areas with identified EJ communities, offered free parking, and were accessible to persons with disabilities and via local transit routes. Similar to the targeted EJ outreach meetings, Spanish translation and interpretation services were offered upon request, and Spanish comment forms were available at the meetings. No requests for Spanish translation services or Spanish comment forms were received.

The project update meetings followed an open-house format. Attendees were invited to view a pre-recorded presentation and to browse exhibits providing details about the project. Members of the project team were present to answer questions and respond to feedback throughout the meetings, and comments were accepted via written comment forms returned at the meetings, the project website, email, phone, and direct mail.

Concerns expressed during the meetings and in submitted comments generally included:

- Construction schedule and opportunities to work on the project.
- Property and right-of-way impacts.
- Future traffic volumes and traffic operations.
- Traffic impacts during construction.
- Multimodal accommodations, including fixed transit (such as light rail).
- Improving local street connections across I-75 in Ohio.
- Reducing the project footprint.
- Creating additional developable land.
- Support for concepts developed by a local group called Bridge Forward.

The comments did not express any concerns unique to EJ communities. Likewise, the project team did not identify any unanticipated additional impacts on EJ populations as a result of the open-house project update meetings. In response to comments received during the public outreach and in coordination with the City of Cincinnati, ODOT has committed to building a wider bridge on Ezzard Charles Drive over I-75 to provide an additional 50 feet of green space on each side that could support potential future civic space or retail development by the City. The individual responses to all comments received during the project update meetings are provided in the project's *Public Involvement Summary.* A summary of all comments received and a response to each was posted to the project website, and the public was notified of the availably of the comment and response summary in the project's October e-newsletter.

4.6 Future Environmental Justice Outreach

Minority and low-income individuals will have the opportunity to review the supplemental EA and other project information and provide comments to KYTC and ODOT for 30 days after it is made publicly available. During that time, in-person public hearings will be scheduled in Kentucky and Ohio. In addition, there will be a virtual public hearing. The public availability of the supplemental EA and the public hearings will be advertised through direct mailings, social media, press releases, print media, the project website, the project e-newsletter, and advertisements disseminated to the same neighborhoods that were engaged during the targeted EJ outreach. Direct mailings and flyers advertising the public hearings will include information in Spanish offering translation and interpretation services upon request. Comment forms will be available in both English and Spanish.

The public hearings will provide opportunities for minority and low-income individuals to review exhibits and other project information, including mitigation and enhancement measures incorporated into Concept I-W. In addition, members of the project team will be available to answer questions. Verbal and written comments will be accepted at the hearing, as well. The comment period for the supplemental EA will last for 15 days after the public hearings.

KYTC and ODOT are committed to a robust public and stakeholder involvement process during the design and construction of the project. To facilitate public involvement and outreach, the project *Public Engagement Plan* will be updated to guide public and stakeholder engagement (including environmental justice populations) during detailed design and construction.

5. IMPACTS AND BENEFITS

The following sections analyze the effects on minority and low-income populations and determine impacts and benefits resulting from Concept I-W. A comparison of the impacts on minority and/or low-income populations with respect to the impacts on the overall population is also provided. A guide providing cross references between neighborhoods and cities adjacent to the project corridor, impacted public recreational properties, impacted historic properties, EJ populations, and noise sensitive areas is included in Appendix F.

5.1 Relocations

Impacted structures (including total and partial relocations) are shown on the Corridor Exhibit in Appendix E. Concept I-W will require four residential relocations in Kentucky, including one single-family home adjacent to the northbound exit ramp to Kyles Lane and three single-family homes adjacent to Bullock Street in the Lewisburg neighborhood. Two of the residential relocations in the Lewisburg neighborhood are tenant occupied. No residential relocations will occur in Ohio. Given the demographics of the EJ study area (see Appendix B), there is potential for one or more of the residential relocations to involve a minority or low-income owner or tenant. However, none of the residential relocations is in an identified EJ area (see Table 3). In addition, avoidance and minimization measures incorporated into Concept I-W have substantially reduced the number of required residential relocations in EJ communities (see Section 6.1). The current total of 4 residential relocations represents up to a 95 percent reduction compared to the original project design that was approved in the 2012 EA/FONSI. Therefore, the potential adverse effects on EJ populations resulting from residential relocations have been avoided and minimized to the greatest extent practicable (see Section 6.1).

Concept I-W requires 1 partial and 24 full (including 14 tenants in one structure) commercial relocations. One of the Kentucky commercial relocations is in a census block group with a low-income population. Seventeen (17) of the Ohio commercial relocations are in census block groups with minority populations, low-income populations, or both (see Table 3). In addition, Concept I-W requires a partial relocation on one Ohio commercial property, which is in census a block group with minority and low-income populations. In Kentucky, the relocated businesses include an auto body shop, an auto service shop, a car dealership, a radio tower, and a heating and air conditioning company. In Ohio, the partial relocation includes removing a building on property owned by E&T Real Estate. Relocated businesses in Ohio include a printing shop, a fast-food restaurant, the dunnhumby USA headquarters, a vacant bar/night club, and a vacant gas station.

Concept I-W will remove 204 feet of Longworth Hall, which will require 14 commercial tenants to relocate. The relocated Longworth Hall tenants include office space for six businesses, three recording or photography studios, a vacant night club, an escape room, and storage space for three businesses. Six of the relocated Longworth Hall tenants have short term, month-to-month leases. In addition, two of the tenants plan to relocate

within the remaining portions of Longworth Hall. ODOT is in the process of purchasing the full Longworth Hall property at a mutually agreed upon price and from a willing seller as a result of the right-of-way negotiation process. The building will remain occupied, and only businesses directly impacted by the removal of 204 feet from the building's east end will be relocated. ODOT may use interior space or the exterior grounds surrounding the building during the project's construction, but no impacts to the building's continued use for commercial office, retail, and event space are anticipated. If project-related activities result in additional impacts beyond those described above to tenants in Longworth Hall, then ODOT will conduct additional coordination in order for FHWA to determine if reevaluation to meet NEPA requirements is necessary.

Table 3: Relocations in Census Block Groups with EJ Populations

State	Concept I-W Relocations	Relocations in Census Block Groups with EJ Populations	
		Minority	Low-Income
Kentucky			
Residential	4 units	0 units	0 units
Commercial[1]	5 full, 0 partial	0 full, 0 partial	1 full, 0 partial
Ohio			
Residential	0 units	0 units	0 units
Commercial[1]	19 full, 1 partial	17 full, 1 partial	16 full, 1 partial
Total			
Residential	4 units	0 units	0 units
Commercial[1]	24 full, 1 partial	17 full, 1 partial	17 full, 1 partial

1. Commercial relocations are expressed as full and partial acquisitions.

With the exception of the tenants in Longworth Hall, the Ohio businesses have already been relocated and removed under the 2012 FONSI. KYTC began acquiring the right-of-way for the project in early 2022. The residential and commercial relocations are anticipated to be complete in 2024. The only major employer displaced is the dunnhumby USA headquarters. In anticipation of the project, a new, expanded headquarters (currently under new ownership and called 84.51°) was built about one-half mile east. Ongoing acquisition activities in Kentucky and Ohio have indicated that affected businesses will be able to relocate within the same geographic area if so desired, either in existing structures or new construction. Given the demographics of the EJ study area (see Appendix B), there is potential for one or more of the commercial relocations to involve a minority or low-income owner, tenant, or employee. However, none of the commercial relocations is expected to result in substantial job loss or economic impact, nor are they known to be substantial employers or serve unique needs within EJ communities. In addition, avoidance and minimization measures incorporated into Concept I-W have substantially reduced the number of required residential relocations in EJ communities (see Section 6.1).

The acquisition of property for right-of-way (including residential and business relocations) has been, and will continue to be, in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies

Act of 1970, as amended (Uniform Act). Due to current real estate market conditions, replacement housing of comparable size may not be available at comparable costs. There are existing mechanisms in place to address these concerns. In addition to receiving just compensation for properties acquired to construct the project, displaced property owners and tenants will also receive relocation assistance. There are also provisions within the Uniform Act to ensure that decent, safe, and sanitary comparable replacement housing is within the financial means of the displaced person. When such housing cannot be provided, the Uniform Act provides "housing of last resort." Housing of last resort, described in 49 CFR § 24.404, is a tool to provide agencies with the flexibility necessary to respond to difficult or unique relocation conditions when there is an insufficient supply of comparable housing. It enables agencies to:

- Exceed the payment amounts set elsewhere in the Uniform Act;
- Construct new houses;
- Modify an existing dwelling to suit the displaced resident's needs;
- Relocate or rehabilitate a dwelling; and
- Provide unsecured loans or leases to displaced residents.

None of the residential relocations will occur in identified EJ communities. The majority of the commercial relocations will occur in census block groups with minority and/or low-income populations. However, none of the commercial relocations is expected to result in substantial job loss or economic impact, nor are they known to be substantial employers or serve unique needs within EJ communities. In addition, avoidance and minimization measures incorporated into Concept I-W have reduced residential and commercial relocations in EJ communities (see Section 6.1).

Therefore, adverse relocation effects will not be predominately borne by an EJ population. Given the above, adverse relocation effects on EJ populations are not anticipated to be appreciably more severe or greater in magnitude than the adverse relocation effects that will be suffered by the non-EJ population.

5.2 Community Resources

Community resources near the project corridor are shown on the Corridor Exhibit in Appendix E and are summarized below:

- Parks and Recreation: There are several parks and recreation facilities near the project corridor, including General Ormsby Mitchel Park, Fort Wright Nature Center, a neighborhood park located at Hermes Avenue and 11th Street in Covington, Devou Park, George Steinford Park, and the Goebel Park Complex (which includes three interconnected parks: Goebel Park, Kenney Shields Park, and the SFC Jason Bishop Memorial Dog Park) in Kentucky; and the Firefighters Memorial, Queensgate Playground and Ball Field, Lincoln Park – Union Terminal, Lincoln Community Center, Ezzard Charles Park, Wade Walk Baseball Field, Laurel Playground, West End Community Garden, Sands Playground, Linn-Livingston Park, and Dyer Park in Ohio.

- Schools: There are seven schools near the project corridor: Beechwood Elementary and High School, Notre Dame Academy, Prince of Peace Catholic School in Kentucky; and the Community Action Agency Head Start Preschool, St. Joseph Catholic School, and the Cincinnati Job Corps Center in Ohio.
- Libraries: There is one branch of the Cincinnati Public Library near the project corridor, located at Linn St. and Ezzard Charles Drive.
- Cemeteries: There are two cemeteries near the project corridor in Kentucky: Highland Cemetery and Historic Linden Grove Cemetery and Arboretum.
- Historic Resources: There are several National Register of Historic Places (NRHP) listed and eligible sites near the project corridor, including NRHP-listed historic districts.
- Places of Worship: There are several places of worship in the project area. The Central Church of the Nazarene in Fort Wright is adjacent to the project corridor.
- Other: Several other community resources are located near the project corridor, including the Ivy Knoll Senior Living Community, Garden of Hope, and St. Elizabeth Covington Hospital in Kentucky; and the Kettering Health Bengals Practice Fields, Paycor Stadium, the Duke Energy Convention Center, the David and Rebecca Barron Center for Men, the WXIX television station, fire stations 14 and 29, the Cincinnati Union Terminal, and a post office in Ohio.

Given the demographics of the EJ study area (see Appendix B), the community resources identified above may be utilized by minority and/or low-income individuals. The project team presumed usage of all community resources by all populations. The project team presented anticipated impacts to community resources and solicited feedback during the targeted environmental justice outreach described in Section 4, and no comments specific to the use of community resources were received.

Concept I-W is not anticipated to impact libraries or cemeteries. Concept I-W will acquire minor amounts of right-of-way from the Notre Dame Academy, Beechwood Elementary and High School, the Central Church of the Nazarene, and St. Elizabeth Covington Hospital. However, no temporary or permanent impacts to the operations of these community facilities are anticipated.

The Section 4(f) Properties Exhibit in Appendix E shows the locations of Section 4(f) properties[1] that will be impacted by Concept I-W overlaid with the locations of EJ populations identified in this report. Concept I-W will acquire about 0.06 acre of new strip right-of-way from the Hillsdale Subdivision Historic District and will remove two contributing resources within the Lewisburg Historic District; however, neither historic district is located in an area with identified EJ populations. The Elberta Apartments Historic district is located in a census block group with a low-income population. Concept I-W will acquire 0.39 acre of permanent easement and 0.03 acre of new strip right-of-way from the Elberta Apartments Historic District. None of the apartment buildings in the

[1] Section 4(f) properties include publicly owned parks, recreation areas, and wildlife and waterfowl refuges and publicly or privately owned historic sites that are on or eligible for the NRHP.

district will be removed, and no residential relocations will occur. The Kentucky State Historic Preservation Officer (SHPO) determined that Concept I-W will have no adverse effect on the Elberta Apartments Historic District. The Firefighters Memorial and Ezzard Charles Park are located in census block groups with minority and/or low-income populations. Concept I-W will result in temporary impacts to the Firefighters Memorial and Ezzard Charles Park, but access to the parks will be maintained at all times, and no permanent impacts will occur.

The Queensgate Playground and Ball Field is in a census block group with minority and low-income populations. Concept I-W will acquire 0.72 acre of permanent right-of-way and easement from the Queensgate Playground and Ball Field, including the loss of outfield areas. Trees and shrubs along the southern edge of the park will be also removed during the construction of the highway, retaining wall, and a proposed noise barrier. To mitigate the impacts, ODOT committed to compensating the City of Cincinnati for the land, relocation of recreational facilities, preparation of construction plans for the ball field reconfiguration, and construction monitoring of the mitigation. These commitments were documented in a *Memorandum of Agreement* (MOA) *Between ODOT and the City of Cincinnati Recreation Commission* executed on May 5, 2011. ODOT paid $198,050 to fulfill its financial commitments in the MOA on December 12, 2012. The City of Cincinnati reconfigured the ball fields in 2014. No further physical impacts are anticipated for the Queensgate Playground and Ball Field that have not already occurred and been mitigated. ODOT is proposing a noise barrier to mitigate noise impacts that are predicted at the Queensgate Playground and Ball Field based on a noise analysis conducted for Concept I-W (see Section 5.5.3). During construction, the proposed 10-foot noise barrier may be installed along the park and highway boundary in lieu of the limited access right-of-way fencing specified in the MOA. If noise public involvement concludes that a noise barrier will not be built, then ODOT has committed to installing the limited access right-of-way fencing as noted above.

The Goebel Park Complex is located in a census block group with a low-income population. Concept I-W will acquire 2.84 acres of permanent right-of-way from the Goebel Park Complex, including 360 feet of walking trails, two basketball courts, and associated resources. To mitigate these impacts, KYTC is returning 2.23 acres of land that is currently occupied by the West 5th Street ramp to the park. Other impacts to the Goebel Park Complex will be mitigated through reconstruction of the walking trail within the complex and a financial commitment from KYTC for the development of a new Goebel Park Complex Master Plan, replacement and enhancement of the basketball courts or other outdoor recreation facilities within the park, and a relocated outdoor pool and associated facilities or other comparable aquatic facility serving the same purpose within the park. The replacement property is higher in elevation than the portions of the complex that will be acquired by the project and not prone to flooding. In addition, the replacement land is flatter and closer to other prominent park features. Based on these characteristics, the replacement land has greater potential for future enhancements to outdoor recreational activities and amenities within the Goebel Park Complex. The future plans, uses, and locations of facilities in the Goebel Park Complex will be established during the new master planning process facilitated by the City of Covington and funded by the proposed mitigation measures for the complex.

In addition to the mitigation measures listed above, KYTC is proposing noise/visual screening barriers to reduce noise levels in the Goebel Park Complex. During detailed design, KYTC has committed to coordinating the composition of the barriers with the City of Covington to determine where transparent noise barriers would be beneficial to preserve views of Goebel Park from the highway, particularly the Clock Tower located within the park. Furthermore, the separation of interstate runoff from the BSB corridor from the existing combined sewer system will reduce the frequency of combined sewer overflows, including in the Goebel Park Complex. Additional details about stormwater management are included in Section 5.5.4.

Longworth Hall is in a census block group with minority and low-income populations. Concept I-W will remove 204 feet of the B&O Freight Terminal/Longworth Hall building located along Pete Rose Way in Cincinnati. This structure, constructed as a warehouse for the Baltimore & Ohio Railroad, currently operates as a general mixed-use office, retail, and event space and is not a unique community resource. To mitigate the impacts to Longworth Hall, ODOT committed to completing repair, upgrade, restoration, enhancement, and refurbishment on the portions of the building impacted by construction and the portions of the building to remain. These commitments were documented in a *Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington*. ODOT is in the process of purchasing the full Longworth Hall property at a mutually agreed upon price and from a willing seller as a result of the right-of-way negotiation process. The portions of the building not removed will remain occupied. ODOT may use interior space or the exterior grounds surrounding the building during the project's construction, but no impacts to the building's continued use for commercial office, retail, and event space are anticipated. Likewise, no additional adverse effects to the historic integrity of Longworth Hall are anticipated as a result of ODOT's activities in the building and on the exterior grounds.

Although several impacted community resources are located within and may serve EJ communities, mitigation measures incorporated into Concept I-W will offset adverse effects. The Queensgate Playground and Ball Field has been reconfigured and continues to serve as a recreational resource to the community. The mitigation measures for the Goebel Park Complex will reduce flooding and provide new basketball courts or other outdoor recreational facilities and a new pool or comparable aquatic facility and other enhancements that will further the City of Covington's long-term plans for this resource. Repair, upgrade, restoration, enhancement, and refurbishment measures performed on Longworth Hall will preserve and enhance a historic resource, and the building will continue to be utilized for commercial office, retail, and event space. Given the above, impacts to community resources resulting from Concept I-W are not anticipated to cause an adverse effect on EJ populations.

5.3 Access and Mobility

The following sections discuss vehicular, pedestrian and bicycle, and transit access and mobility considerations for EJ communities.

5.3.1 Vehicular Access

Concept I-W will change how through (interstate) traffic and local traffic travel through the corridor, as described below:[1]

- Through (interstate) traffic will move through the corridor via I-71/I-75 and across the Ohio River on a new double-decker companion bridge west of the existing BSB. These changes will improve access and mobility for both EJ and non-EJ travelers.
- Traffic will travel to and from local destinations using C-D roadways in the following locations:
    - Northbound between the Dixie Highway (KY) and Kyles Lane interchanges (KY). This change will not occur in an EJ community.
    - Southbound between the Kyles Lane (KY) and Dixie Highway interchanges (KY). This change will not occur in an EJ community.
    - Northbound from north of St. Elizabeth Covington Hospital (KY) to north of Freeman Avenue (OH). This change will occur in census block groups with minority and/or low-income populations. While the method for accessing local destinations will change, all access will be maintained. The introduction of the C-D roadway system will improve traffic flow by separating through and local traffic and keeping them in separate paths for longer distances, reducing weaving movements that can disrupt traffic flow. These benefits will be realized by through (interstate) travelers as well as individuals traveling to and from destinations in EJ communities.
    - Southbound from north of Ezzard Charles Drive (OH) to south of West 5th Street (KY). This change will occur in census block groups with minority and/or low-income populations and is anticipated to improve traffic flow for through (interstate) travelers as well as individuals traveling to and from destinations in EJ communities.
- Left-hand exits off of I-71/I-75 will be removed, except for one left-hand exit to West 5th Street from the C-D road in Covington. These changes will occur in census block groups with minority and/or low-income populations and will improve traffic flow for through (interstate) travelers as well as individuals traveling to and from destinations in EJ communities by allowing traffic to exit the interstate from the right lane or the C-D roadway as opposed to the high speed (left) interstate lane.
- The Texas turnaround at Pike Street will be removed and replaced by the C-D roadway system. This change will occur in census block groups with low-income populations and will provide similar access.
- An extended frontage road along Simon Kenton Way will provide an additional north-south community connection between West 9th Street and West 5th Street in Covington. This change will improve access in a census block group with a low-income population.
- The West 4th Street ramp to the northbound C-D roadway system in Covington, which continues on to I-71 and I-75, will be open to all vehicles, as opposed to the existing emergency vehicle access only.

[1] Traffic operations for Concept I-W were analyzed using certified traffic for the years 2029 and 2049 and are documented in an *Interchange Modification Study Addendum (December 2023)* prepared for the project.

This change will restore access that currently is restricted in a census block group with a low-income population.

- Access to northbound I-75 will be provided directly from the Clay Wade Bailey Bridge. This change will not occur in an EJ community; however, it may improve access for census block groups with minority and low-income populations located in the broader Covington area.
- Rose Street will be permanently closed, and Augusta Street will be closed under the existing BSB. These changes will occur in a census block group with minority and low-income populations; however, adverse effects are not anticipated because these roadways almost exclusively serve adjacent utility infrastructure and an asphalt plant, and alternative access is available within one city block.
- The entrance to northbound I-75 at 4th Street in downtown Cincinnati will be removed and replaced with an entrance ramp at 3rd Street. This change will occur in a census block group with a minority population; however, adverse effects are not anticipated because traffic will only need to reroute about one city block, and sufficient lanes will be provided to maintain acceptable traffic flow. While these ramps are situated in an EJ community, the change in access will be experienced by both EJ and non-EJ travelers due to the large daily influx of travelers into downtown Cincinnati.
- The southbound I-75 exit to 5th Street in downtown Cincinnati will be removed, and the exit to 7th Street will be widened to accommodate rerouted traffic. This change occurs in census block groups with minority and/or low-income populations; however, adverse effects are not anticipated because traffic will only need to reroute about two city blocks, and sufficient lanes will be provided to maintain acceptable traffic flow. While these ramps are situated in an EJ community, the change in access will be experienced by both EJ and non-EJ travelers due to the large daily influx of travelers into downtown Cincinnati.
- The connection between 6th Street and Winchell Avenue will be removed and replaced with a connection between 6th Street and the northbound C-D road, which continues on to northbound I-75. This change will occur in census block groups with minority and low-income populations and will provide similar access.
- The northbound entrance ramp to I-75 will be moved from its existing location at Freeman Avenue (south of Ezzard Charles Drive) to Winchell Avenue (north of Ezzard Charles Drive). This change will improve access to I-75 in a census block groups with minority and low-income populations.
- The two existing one-way bridges on Ezzard Charles Drive will be replaced with one, two-way bridge over I-75. This change will occur in census block groups with minority and low-income populations and will provide similar access.
- Direct access to Central Parkway from I-75 will be provided via the interchange with the Western Hills Viaduct. This change will improve access in a census block group with minority and low-income populations.

- Access to Spring Grove Avenue from the Western Hills Viaduct will be provided via a ramp to Harrison Avenue. This change will improve access in a census block groups with minority and/or low-income populations.

In the existing condition, incidents on the BSB force traffic (including trucks) onto the local street network, often overburdening the system. The construction of a new companion bridge and C-D roadway system introduces additional resilience into the local and regional transportation network by providing additional options for maintaining cross-river traffic if an incident or future construction or maintenance activities occur. Likewise, the extension of Simon Kenton Way to West 5th Street in Kentucky will be able to accommodate traffic that would otherwise divert into downtown Covington. These changes are anticipated to reduce traffic congestion and improve safety in census block groups with minority and/or low-income populations.

Given the above, the permanent changes in vehicular access incorporated into Concept I-W are not anticipated to result in an adverse effect on EJ communities. Net improvements in vehicular access to, from, and within EJ communities are expected.

5.3.2 Pedestrian and Bicycle Access

Pedestrian and bicycle facilities incorporated into Concept I-W are shown in the Multimodal Exhibit provided in Appendix E. In Kentucky, the project will be implemented in accordance with KYTC's *Complete Streets, Roads, and Highways Policy* and *Complete Streets, Roads, and Highways Manual*, which outline KYTC's policies and procedures for developing a comprehensive, integrated, and connected transportation network focused on creating safe transportation options for users of all ages and abilities. KYTC's complete streets policy and procedures are designed to protect vulnerable roadway users and provide equitable transportation operations in underinvested and underserved communities. To that end, Concept I-W will build a new shared use path along the outside lanes on Simon Kenton Way and new/rebuilt sidewalks along the outside lanes on Bullock Street. Sidewalks will be rebuilt along Pike Street west of I-71/I-75. Also, new and rebuilt sidewalks will be included under the MLK/West 12th Street, Pike Street, West 9th Street, West 5th Street, and West 3rd Street bridges, including a 5-foot switchback accessible ramp to replace steep stairs between Pike Street and Lewis Street. A new shared-use path will be built under the West 5th Street bridge, which will tie into the shared-use paths in the Goebel Park Complex. The shared-use path will be extended along Crescent Avenue to connect to the existing shared-use path along the Ohio River. The new and improved pedestrian and bicycle infrastructure incorporated into Concept I-W is situated in census block groups with low-income populations and will improve access in and between the Westside, Mainstrasse, Lewisburg, Botany Hills, and Covington Central Business District neighborhoods (see Table 4).

In Ohio, the project will be implemented in accordance with ODOT's *Multimodal Design Guide*, which outlines ODOT's procedures for developing connected pedestrian and bicycle networks to support walking and bicycling for people of all ages and abilities. To that end, Concept I-W will install bicycle and pedestrian infrastructure in and between the Cincinnati Central Business District (CBD) Riverfront, Queensgate, and the West End neighborhoods, all of which occupy census block groups with minority and/or low-income populations. Pedestrian and bicycle connections will be included across I-75 on 6th Street, 7th Street, 9th Street,

Linn Street, Freeman Avenue, Ezzard Charles Drive, Liberty Street, Findlay Street, Bank Street, and Harrison Avenue. In addition, a new shared-use path will be constructed along Winchell Avenue between 9th Street and Ezzard Charles Drive, including a pedestrian bridge connection to Freeman Avenue (see Table 4).

The multimodal accommodations in both Kentucky and Ohio will also support the OKI *Regional Complete Streets Policy*, which outlines OKI's policy for building roads designed for all users.

Table 4: U.S. Census Block Groups with Pedestrian and Bicycle Improvements

Map ID[1]	Census Block Group Number	Neighborhood	Minority Population?	Low-Income Population?
Kentucky				
32	211170638001	Botany Hills	No	No
33	211170670004	Kentucky CBD	No	No
38	211170616001	Lewisburg/Botany Hills	No	No
39	211170603002	Mainstrasse	No	Yes
47	211170607002	Mainstrasse	No	Yes
48	211170607001	Westside	No	No
Ohio				
4	390610263001	Queensgate	Yes	Yes
5	390610269002	West End	Yes	Yes
6	390610269001	West End	Yes	Yes
11	390610002001	West End	Yes	Yes
14	390610264005	West End	Yes	Yes
24	390610265001	West End	Yes	Yes
28	390610265003	CBD Riverfront	Yes	No

1. Only census block groups with pedestrian and bicycle improvements are shown. See Appendix A for exhibits showing Map ID numbers for each census block group.

2. Blue shading indicates a census block group with an EJ population.

Concept I-W will increase the options available to pedestrians and bicyclists, which will enhance community connectivity along and across the I-71/I-75 corridor and may improve access to transit, employment, healthcare, cultural, recreational, and commercial destinations. Furthermore, new bicycle lanes and shared-use paths will support future planned improvements of regional pedestrian and bicycle networks. Therefore, the permanent changes in pedestrian and bicycle access incorporated into Concept I-W are not anticipated to result in an adverse effect on EJ communities. Improvements in pedestrian and bicycle access will provide a direct benefit to EJ communities.

5.3.3 Transit

Many bus routes and stops are located directly adjacent to the BSB corridor, largely north of Pike Street in Kentucky and throughout the corridor in Ohio (see the Multimodal Exhibit in Appendix E). These bus routes and stops are located within and serve census block groups with minority and/or low-income populations. Additionally, bus routes in the area utilize the existing BSB and the BSB corridor for express routes, including for access to the Cincinnati/Northern Kentucky International Airport.

Concept I-W will not permanently affect access to transit and will provide an overall benefit to the public for transit in the area. Concept I-W will reduce traffic congestion, improving reliability for local bus routes that use the BSB for 210 trips every weekday, thus benefitting minority and low-income individuals who utilize these transit routes. In addition, new and improved sidewalks, shared-use paths, and bicycle lanes will enhance connections to existing bus stops and routes that are located in EJ communities, as shown on the Multimodal Exhibit in Appendix E. Therefore, Concept I-W is not anticipated to result in an adverse effect on transit in EJ communities. Concept I-W is expected to improve transit access and reliability for minority and low-income populations.

5.4 Safety

The C-D roadway system incorporated into Concept I-W will improve safety by separating through and local traffic and keeping them separate for longer distances, thus reducing weaving movements that increase the risk of crashes. The removal of left-hand exits and other design deficiencies such as substandard shoulders are also expected to improve safety and reduce crashes by further reducing weaving movements and by providing a larger buffer for vehicles. In addition, two existing one-way bridges on Ezzard Charles Drive over I-75 will be replaced with one combined two-way bridge. This change was incorporated into Concept I-W in response to a request from the City of Cincinnati and is expected to reduce the high number of wrong-way crashes occurring at this location.

The C-D roadway system between Dixie Highway and Kyles Lane and about 50 percent of the BSB corridor in Kentucky are not located in EJ communities; although, the safety improvements in these areas will equally benefit both EJ and non-EJ interstate travelers. The remainder of the safety improvements, including interstate upgrades, the C-D roadway system between Covington and Cincinnati, the removal of left-hand exits, and the reconfigured Ezzard Charles Drive bridge will occur in census block groups with minority and/or low-income populations and will directly improve safety for individuals traveling to, from, and within EJ communities.

To promote safety for bicyclists and pedestrians, the ramp connections with local streets are being designed as lower-speed urban roadways, which will encourage drivers to decelerate to safe speeds prior to reaching bicycle and pedestrian crossings. Furthermore, the buffer distance between automobile traffic and sidewalks and shared-use paths will be increased, improving bicyclist and pedestrian safety and comfort. Finally, lighting will be installed in underpass areas to improve safety and security for pedestrians and bicyclists. These improvements are concentrated in areas with identified EJ populations and are anticipated to directly improve safety for pedestrians and bicyclists in EJ communities.

Given the above, Concept I-W is not anticipated to result in an adverse effect on safety in EJ communities. Concept I-W is expected to improve safety in EJ communities throughout the project area.

5.5 Environmental

The following sections discuss the environmental effects of Concept I-W as they pertain to EJ communities.

5.5.1 Air Quality

Air quality evaluations completed for Concept I-W considered PM2.5, carbon monoxide, and ozone. The project area is in attainment with National Ambient Air Quality Standards for PM2.5 and carbon monoxide, and Concept I-W is in conformance with National Ambient Air Quality Standards for ozone. In addition, a *Quantitative MSAT Analysis Report (August 2023)* concluded that Concept I-W is consistent with mobile source air toxics requirements.

The U.S. Environmental Protection Agency (USEPA) has developed an environmental justice mapping and screening tool called EJ Screen that provides a nationally consistent dataset of environmental indicators.[1] A review of EJ Screen environmental indicators for air quality showed the following:

- Compared to statewide data, PM2.5 levels in the air are in the 80 to 100 percentile[2] range for the entire EJ study area. PM2.5 levels in the southern portions of the EJ study area are generally in the 80 to 90 percentile range. PM2.5 levels climb to the 90 to 95 percentile range from just south of the Ohio River through most of the Ohio portion of the EJ study area. PM2.5 levels in five census block groups in the northernmost portions of EJ study area are in the 95 to 100 percentile range.
- Compared to statewide data, diesel particulate matter in the air is in the 90 to 100 percentile range for the entire EJ study area.
- Compared to statewide data, the air toxics respiratory hazard index[3] is in the 80 to 90 percentile range for the Kentucky portions of the EJ study area and in the 95 to 100 percentile range for the Ohio portions of the EJ study area.

While Concept I-W is consistent with National Ambient Air Quality Standards and mobile source air toxics requirements, environmental indicators synthesized by USEPA show that pollutant levels are relatively high when compared to statewide data for Kentucky and Ohio. To further evaluate air quality considerations, KYTC and ODOT completed an emissions burdens analysis that modeled the levels of volatile organic compounds,

[1] Environmental Protection Agency. (n.d.). EJScreen: Environmental Justice Screening and Mapping Tool. EPA. Retrieved June 28, 2023, from https://www.epa.gov/ejscreen.

[2] Percentiles are a method of comparing local conditions to the rest of the state. When compared to statewide data, the percentile describes what percent of the state has an equal or lower value of a specific environmental indicator.

[3] Air toxics are pollutants known to cause or suspected of causing cancer or other serious health effects (also known as toxic air pollutants or hazardous air pollutants. The air toxics respiratory hazard index is the sum of hazard indices for those air toxics with reference concentrations based on respiratory endpoints, where each hazard index is the ratio of exposure concentration in the air to the health-based reference concentration set by USEPA).

nitrogen oxides, and PM2.5 for 2020 existing, 2050 no-build, and 2050 build scenarios.[1] The analyses concluded that emissions of the analyzed pollutants in the EJ study area would be substantially decreased for both the 2050 no-build and 2050 build scenarios when compared to the 2020 existing scenario. These reductions are primarily due to the implementation of the latest federal emissions standards coupled with fleet turnover.

In general, Concept I-W will improve traffic flow and reduce traffic congestion and vehicle idling in the area transportation network, which is expected to reduce vehicle emissions and improve local air quality. When the 2050 build scenario is compared to the 2050 no-build scenario, the levels of volatile organic compounds and nitrogen oxides are anticipated to be less or approximately the same throughout the EJ study area, which includes 42 of 76 census block groups with minority and/or low-income populations.

When the 2050 build scenario is compared to the 2050 no-build scenario, PM2.5 is anticipated to be less or approximately the same in Campbell and Hamilton counties, which include in 27 of 76 census block groups with minority and/or low-income populations. PM2.5 is anticipated to be slightly greater (2.8 percent) in Kenton County, which includes 15 of 76 census block groups with minority and/or low-income populations. The slightly greater levels of PM2.5 in Kenton County are due to an increase in vehicle miles of travel that will occur throughout the area transportation network when the project is built.

Concept I-W is in attainment with the National Ambient Air Quality Standards for PM2.5 and carbon monoxide, and Concept I-W is in conformance with National Ambient Air Quality Standards for ozone. In addition, Concept I-W is consistent with mobile source air toxics requirements. When the 2050 build scenario is compared to the 2020 existing scenario, vehicle emissions throughout the EJ study area are expected to be substantially reduced. When the 2050 build scenario is compared to the 2050 no-build scenario, vehicle emissions throughout the EJ study area are expected to be less or approximately the same, with slightly greater levels of PM2.5 in Kenton County. Twenty (20) percent of the census block groups with minority and/or low-income populations the EJ study area are in Kenton County; therefore, the slightly greater level of PM2.5 when the 2050 build scenario is compared to the 2050 no-build scenario will not be predominately borne by EJ populations nor is it appreciably more severe or greater in magnitude than the level of PM2.5 emissions for the non-EJ population. Given the above, Concept I-W is not anticipated to result in an adverse effect on air quality in EJ communities.

5.5.2 Greenhouse Gases and Climate Change

On January 29, 2023, the Council on Environmental Quality issued interim “National Environmental Policy Act (NEPA) Guidance on the Consideration of Greenhouse Gas (GHG) Emissions and Climate Change.” KYTC and ODOT modeled the levels of greenhouse gas emissions[2] expected to occur in 2020 existing,

[1] The affected network modeled for the emissions burdens analysis was slightly larger than and contained the full extents of the EJ study area.

[2] Greenhouse gas emissions (also called carbon dioxide equivalent emissions) were calculated from projected carbon dioxide, nitrous oxide, and methane gas emissions weighted according to the global warming potential of each gas as defined by USEPA in its MOtor Vehicle Emission Simulator (MOVES3).

2050 no-build, and 2050 build scenarios.[1] The greenhouse gas emissions analysis was conducted at a quantitatively high level and encompassed the affected transportation network where changes in greenhouse gas emissions are expected to occur as a direct result of Concept I-W.

The emissions burdens analysis concluded that greenhouse gas emissions would be substantially decreased for both the 2050 no-build and 2050 build scenarios when compared to the 2020 existing scenario. These reductions are primarily due to the implementation of the latest federal emissions standards coupled with fleet turnover. Greenhouse gas emissions are expected to be slightly greater (0.7 percent) when the 2050 build scenario is compared to the 2050 no-build scenario. This is primarily due to an increase in vehicle miles of travel that will occur throughout the area transportation network when the project is built. In addition, the 0.7 percent difference in greenhouse gas emissions is less than the associated 1.7 percent difference in vehicle miles of travel. The change in greenhouse gas emissions is expected to have minimal effects on climate change in the EJ study area.

Measures incorporated into Concept I-W to manage stormwater and reduce flooding (see Section 5.5.4) will promote climate resilience in the project area. In addition, KYTC and ODOT address issues related to climate change on a statewide level through their *Transportation Asset Management Plans.*[2] The design, construction, and maintenance of the project will be in accordance with each state's *Asset Management Plan*. EJ and non-EJ communities will equally share in the benefits resulting from these efforts to address climate change. Given the above, Concept I-W is not anticipated to result in an adverse effect on greenhouse gas emissions and climate change in EJ communities.

5.5.3 Noise

KYTC conducted noise analyses for Concept I-W that predicted noise impacts in 14 census block groups in Kentucky. None of these impacts occur in a census block group with minority populations. Impacts were predicted in four census block groups with low-income populations. The study found noise barriers to be feasible and reasonable per KYTC's *Noise Analysis and Abatement Policy* (KYTC noise policy) to mitigate noise impacts in nine census block groups, including two census block groups with low-income populations, and KYTC is proposing noise barriers in these areas.

Recognizing from neighborhood outreach efforts that traffic noise is a primary concern of area residents, KYTC conducted technical studies to evaluate additional noise/visual screening barriers for five block groups where noise impacts were predicted but noise barriers were not warranted. Based on the technical feasibility and public comments received during outreach activities, KYTC is proposing one additional noise/visual screening barrier in Fort Mitchell where EJ communities do not reside. KYTC is also proposing noise/visual screening barriers in the Mainstrasse neighborhood, which will benefit two census block groups with low-income populations and one census block group without EJ populations.

[1] The affected network modeled for the greenhouse gas analysis was slightly larger than and contained the full extents of the EJ study area.

[2] *Transportation Asset Management Plan BIL-Compliant Version* (KYTC, December 2022) and *Transportation Asset Management Plan* (ODOT, December 2022)

Only one census block group with noise impacts in Kentucky will not receive mitigation from proposed noise barriers or enhanced noise reduction from proposed noise/visual screening barriers. The census block group that will not receive mitigation or enhanced noise reduction only includes one noise sensitive receptor[1]: a hotel located in a census block group without identified EJ populations. The noise analyses concluded that noise barriers were not feasible or reasonable at this location, and noise/visual screening barriers would not provide a noticeable reduction in sound levels.

In accordance with the KYTC *Noise Analysis and Abatement Policy*, a noise abatement public meeting and surveys will be conducted with benefited receptors at each location where noise and noise/visual screening barriers are proposed in Kentucky. During stakeholder and public outreach, some concerns were raised about noise barriers blocking views of Covington for motorists traveling on I-71/I-75. Concerns were also raised about noise barriers blocking views across I-71/I-75 from adjacent areas such as along Crescent Avenue. During detailed design, KYTC has committed to coordinating with the City of Covington to evaluate the use of transparent noise barriers in some locations to preserve views of the Goebel Park Complex from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods.

ODOT conducted noise analyses for Concept I-W that predicted noise impacts in seven census block groups in Ohio, including six census block groups with minority and/or low-income populations. The study found noise barriers to be feasible and reasonable per ODOT's *Analysis and Abatement of Highway Traffic Noise Policy Statement (ODOT* noise policy) in three census block groups in the West End neighborhood, and ODOT is proposing noise barriers in these areas. In addition, ODOT has committed to constructing 57-inch barriers on the Liberty Street, Findlay Street, and Bank Street bridge parapets. These barriers will be 15 inches taller than standard ODOT bridge barriers, and the increased height will further reduce tire pavement noise in the West End neighborhood, where minority and low-income populations reside. In accordance with the ODOT noise policy, ODOT will conduct noise abatement public involvement with benefited receptors where noise abatement has been determined to be feasible and reasonable.

The Ohio analysis identified noise impacts in the Camp Washington neighborhood, which is situated in a census block group with low-income populations. However, the impacts only occur at three isolated homes spaced over a distance of about 2,000 feet. Noise mitigation for isolated residences is not cost effective per ODOT's noise policy, and noise mitigation is not proposed in the Camp Washington neighborhood.

The Ohio analysis identified noise impacts for 79 noise sensitive receptors in the CUF neighborhood, which is situated in a census block group with no identified EJ populations. Noise barriers were evaluated in the CUF neighborhood but were not found to achieve noise reduction goals and were not cost effective per ODOT's noise policy; therefore, noise mitigation is not proposed in the CUF neighborhood.

The Ohio analysis also identified noise impacts at the Cincinnati Jobs Corps (two equivalent noise sensitive receptors) in the Queensgate neighborhood, which is situated in a census block group with minority and low-income populations. Noise barriers were evaluated for the Cincinnati Jobs Corps but were not found to be cost effective per ODOT's noise policy; therefore, nose mitigation is not proposed in the Queensgate neighborhood.

[1] A noise sensitive receptor is an individual site or location that would be sensitive to an increase in noise levels.

The Ohio analysis also identified noise impacts at the Firefighters Memorial and an apartment building (31 total noise sensitive receptors) in the Cincinnati CBD Riverfront neighborhood, which is situated in a census block group with a minority population. Noise barriers were evaluated for the Firefighters Memorial and the apartment building but were not found to be feasible and/or reasonable per ODOT's noise policy. Noise impacts were identified for these receptors because the sound levels in both the existing (2029) condition and the proposed (2049) conditions exceed noise abatement criteria established by FHWA. Although noise levels are higher than established noise abatement criteria for both the existing and proposed conditions, Concept I-W will only increase noise levels in the CBD Riverfront neighborhood by a maximum of 1.3 decibels. According to ODOT's noise policy, the average person cannot detect an increase or decrease in sound pressure level of less than 3 decibels. Therefore, while noise mitigation is not proposed in the CBD Riverfront neighborhood, Concept I-W is not anticipated to create a perceptible increase in noise levels in this area.

Proposed noise barriers and enhanced noise/visual screening barriers in Kentucky and Ohio are shown on the Corridor Exhibit and Noise Schematic in Appendix E. As summarized in Table 5, noise impacts are predicted in 21 census block groups in the EJ study area, including 5 (24 percent) census block groups with minority populations and 9 (43 percent) census block groups with low-income populations. Noise barriers are proposed to provide noise mitigation and noise/visual screening barriers are proposed to provide enhanced sound reduction in 16 census block groups where noise impacts were identified, including 7 (44 percent) census block groups with minority and/or low-income populations. There are a total of 116 impacted noise sensitive receptors in the 5 census block groups where noise or noise/visual screening barriers are not proposed. These include 36 receptors (31 percent) in census block groups with EJ populations and 80 receptors (69 percent) in census block groups where EJ populations were not identified. Therefore, the majority of the noise impacts where noise or noise/visual screening barriers are not proposed occur in non-EJ communities.

Given the above, noise impacts resulting from Concept I-W will not be predominately borne by EJ populations. In addition, proposed noise and noise/visual screening barriers will mitigate noise impacts and provide enhanced sound reduction in both EJ and non-EJ communities. Therefore, adverse noise effects on EJ populations are not anticipated to be appreciably more severe or greater in magnitude than the adverse noise effects that will be suffered by the non-EJ population.

Table 5: U.S. Census Block Groups with Noise Impacts and Proposed Mitigation

Map ID[1]	Census Block Group Number	Neighborhood	Minority Population?	Low-Income Population?	Mitigation[2]
Kentucky					
32	211170638001	Botany Hills	No	No	None[3]
38	211170616001	Botany Hills/Lewisburg	No	No	Noise barrier
39	211170603002	Mainstrasse	No	Yes	Noise/visual screening barrier
40	211170603001	Mainstrasse	No	No	Noise/visual screening barrier
47	211170607002	Mainstrasse	No	Yes	Noise/visual screening barrier
48	211170607001	Westside	No	No	Noise barrier
57	211170650002	Westside	No	No	Noise barrier

Map ID[1]	Census Block Group Number	Neighborhood	Minority Population?	Low-Income Population?	Mitigation[2]
Table 5 (cont.)					
63	211170649003	Park Hills/Fort Wright	No	Yes	Noise barrier
64	211170651001	Peaselburg	No	Yes	Noise barrier
69	211170652001	Fort Wright	No	No	Noise barrier
71	211170648003	Fort Wright	No	No	Noise barrier
72	211170652002	Fort Wright	No	No	Noise barrier
74	211170648002	Fort Mitchell	No	No	Noise/visual screening barrier
75	211170647002	Fort Mitchell	No	No	Noise barrier
Ohio					
1	390610028002	Camp Washington	No	Yes	None[4]
2	390610027001	CUF	No	No	None[5]
4	390610263001	Queensgate	Yes	Yes	None[6]
5	390610269002	West End	Yes	Yes	Noise barrier
11	390610002001	West End	Yes	Yes	Noise barrier
24	390610265001	West End[7]	Yes	Yes	Noise barrier
28	390610265003	CBD Riverfront	Yes	No	None[8]

1. Only census block groups with noise impacts are shown. See Appendix A for exhibits showing Map ID numbers.

2. Noise/visual screening barriers will provide enhanced noise reduction for areas that did warrant noise barriers in accordance with KYTC's noise policy.

3. Only one impacted receiver. Noise mitigation was not feasible or reasonable per KYTC's noise policy. Noise/visual screening barriers would not provide a noticeable reduction in sound levels.

4. Only three impacted receptors over 2,000 feet. Noise mitigation for isolated receptors is not cost effective per ODOT's noise policy.

5. Noise mitigation was evaluated but did not achieve noise reduction goals and was not cost effective per ODOT's noise policy.

6. Only one impacted receiver, the Cincinnati Jobs Corps. Noise mitigation was not cost effective per ODOT's noise policy.

7. The Queensgate Playground and Ball Field is located in the West End neighborhood (census block group 390610265001, Map ID 24). See Appendix A for exhibits showing Map ID numbers and Appendix F for a resource cross reference guide.

8. Noise mitigation was evaluated but was not feasible or reasonable per ODOT's noise policy. Increased noise levels are not anticipated to be perceptible.

9. Blue shading indicates a census block group with an EJ population.

5.5.4 Stormwater

The majority of the project corridor in Kentucky, beginning at Kyles Lane and extending to the Ohio River, is located in the Willow Run watershed. This watershed drains to the Ohio River through a combined sewer system which overflows during high-volume rain events, flooding the river with combined sewer overflow. The BSB corridor encompasses 27 percent of the Willow Run watershed. Under existing conditions, all of the runoff from the I-71/I-75 corridor in Kentucky flows into the combined sewer system, creating flooding in the Peaselburg neighborhood and contributing to overflow events. Furthermore, elevated water levels can cause the Ohio River to backflow into the combined sewer system, leading to flooding in the Goebel Park Complex in

the Mainstrasse neighborhood. The affected areas of the Goebel Park Complex and the Peaselburg neighborhood are located in census block groups with low-income populations.

While only runoff from new impervious area is required to be separated, KYTC has committed to separating all interstate runoff from the BSB corridor from the existing combined sewer system. Modeling shows that these separation efforts will substantially reduce the volume flowing into the combined sewer system and the frequency of overflow events, including in the Goebel Park Complex. In addition, during detailed design, KYTC will work with the City of Covington and Kentucky Sanitation District 1 to address surcharging in the Peaselburg neighborhood based on the local design criteria for a 25-year storm, which will further reduce flooding in this neighborhood.

In Ohio, Mill Creek runs through the western portion of the EJ study area, through census block groups with minority and low-income populations. During extreme rain events, existing combined sewers flood Mill Creek with sewage. The stormwater system along the BSB corridor in Ohio will be completely replaced, and the new system will be designed to meet current ODOT standards. Concept I-W will separate highway drainage from the existing combined sewer system in Ohio, and ODOT will partner with the Metropolitan Sewer District to build infrastructure to drain directly to Mill Creek and/or the Ohio River. ODOT will also utilize best management practices and off-site mitigation to address water quality treatment requirements in Ohio. These measures will reduce the frequency of combined sewer overflow events and improve water quality in Mill Creek as it runs through the Camp Washington and Queensgate neighborhoods.

Given the above, Concept I-W is not anticipated to result in an adverse effect on stormwater runoff in EJ communities. Concept I-W is anticipated to directly benefit minority and low-income populations by reducing flooding and combined sewer overflows in EJ communities.

5.6 Visual

Interstates 71 and 75 are physically prominent features in the project area. In general, this will not change as a result of Concept I-W. However, the visual setting will change in some areas immediately adjacent to the project. Below is a summary of key visual characteristics of Concept I-W:

- A new double-decker companion bridge will be built immediately west of the existing BSB. The new companion bridge will not be situated in a census block group with EJ populations, and it will be equally visible from census block groups with EJ and non-EJ populations.
- The proposed interstate will be higher than the existing highway in some areas. The greatest height changes will occur in Kentucky on the approaches to the new companion bridge and will occur in approximately 5 census block groups, 2 (40 percent) of which contain low-income populations. In the vicinity of the Goebel Park Complex, the maximum height increase will be 31 feet for the northbound lanes on I-71/75. In general, the change in height decreases as the distance from the new companion bridge increases.
- Widening on I-71/I-75, the realigned approaches to the new companion bridge, and the construction of a C-D roadway system will move lanes closer to adjacent homes and businesses. This widening will

impact 24 census block groups, 12 (50 percent) of which contain minority and/or low-income populations.

- Steeper side slopes or retaining walls will be built in some areas to avoid property impacts. These will occur in census block groups with both EJ and non-EJ populations.
- Landscaping within the existing right-of-way will change. In the existing condition, brush and small trees in the right-of-way provide some visual screening of the highway. It is anticipated that some of the existing vegetation will be permanently removed from within the right-of-way in census block groups with both EJ and non-EJ populations.
- Noise and noise/visual screening barriers ranging from 8 to 24 feet in height have been proposed in 16 census block groups, including 7 (44 percent) that contain EJ populations.

A project Aesthetics Committee was formed to evaluate aesthetic treatments for project components, including the structure type for the companion bridge. KYTC and ODOT have met several times with the full Aesthetics Committee and Subcommittees focused on specific geographic areas of the corridor. Additional aesthetics meetings are planned throughout the progressive design-build process to finalize aesthetic plans.

KYTC is closely coordinating the project aesthetic plans with the Covington Aesthetics Subcommittee and the Fort Wright/Fort Mitchell Aesthetics Subcommittee to further their goals of creating vibrant urban spaces in locations throughout the corridor. Items being discussed include landscaping, streetscapes, gateways, and treatments for piers, abutments, retaining walls, and noise barriers. During final design, KYTC has committed to coordinating with the City of Covington to evaluate the use of transparent noise barriers in some locations to preserve views of Goebel Park from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods. EJ communities in the Kentucky portion of the BSB corridor will receive the same opportunities for aesthetic enhancements as the non-EJ population.

ODOT is also coordinating the project aesthetic plans with and Ohio Aesthetics Subcommittee, which includes the City of Cincinnati. Piers, abutments, retaining walls, and noise barriers, longitudinal bridge parapets, and overhead bridge parapets will receive aesthetic treatments. In addition, the steel and concrete girders will have colors that fit into the aesthetics of the larger I-75 corridor, and overpass bridges will have translucent screen walls with interior lighting. As an enhancement, the City of Cincinnati is currently considering including colored and/or integral graphic panels. Overpass bridges will also include decorative lighting and planters at the back of walk and near the curb. These aesthetic treatments will contribute to an urban neighborhood feel on bridges throughout the corridor in Ohio and will be a substantial enhancement over the existing bridges. In Ohio, I-75 is situated almost exclusively within EJ communities; therefore, the aesthetic enhancements incorporated into the Ohio portion of the project will primarily benefit EJ communities.

Finally, KYTC, ODOT, and the Aesthetics Committee are coordinating the design of the new companion bridge to ensure that it is an iconic, aesthetically pleasing structure. The required elevations for the top of the new companion bridge will be no less than 300 feet and no more than 420 feet above the normal pool elevation of the Ohio River. The minimum elevation was set to ensure the new bridge can be better seen due to its

proximity to the existing BSB. The maximum elevation was set to protect the visual character of historic districts, including areas with EJ communities.

Community members were presented with renderings and other details of the new companion bridge, drawings and details showing elevations of the proposed interstate in Kentucky, renderings and other information about landscaping, and information about noise barriers during the targeted EJ outreach and were encouraged to provide comments. Community members generally supported the aesthetic elements incorporated into Concept I-W.

Given the above, the minor visual changes associated with Concept I-W will not be predominately borne by EJ populations, nor will the effects be appreciably more severe or greater in magnitude than the visual changes experienced by non-EJ populations. The aesthetics incorporated into Concept I-W are anticipated to provide direct benefits to EJ communities by improving the visual character of the project corridor and helping to foster vibrant neighborhood spaces in those communities. Therefore, Concept I-W is not anticipated to result in adverse visual effects on EJ populations.

5.7 Workforce Development

KYTC and ODOT recognize the BSB Corridor Project represents a historic opportunity to promote and strengthen disadvantaged business enterprise (DBE) firms.[1] To that end, separate goals for DBE participation will be established in both the design and construction portions of the progressive design-build portion of the project (Phase III) to ensure that DBE firms in both industries have opportunities to participate. In addition, KYTC and ODOT have sponsored industry information and networking events that provided a forum for robust engagement between prime consultants/contractors and DBE firms. DBE outreach will continue through the progressive design-build process and may include activities such as networking events, newsletters, and social media. In addition, the design-build team will be required to provide opportunities to develop and support DBE firms working on the project.

During the progressive design-build phase of the project (Phase III), KYTC and ODOT have also committed to developing an on-the-job training program to offer equal opportunity for the training of EJ and other populations to advance their skills toward journeyperson status in the highway construction trades. To support those efforts, the project's contract documents will include a 15 percent on-the-job training target that will be finalized during the preconstruction phase of the progressive design-build contract (Phase III). In addition, KYTC and ODOT will create a workforce development plan to assist candidates seeking employment in the transportation industry or on related infrastructure projects. Workforce development opportunities being discussed include engaging local students in science, technology, engineering, and mathematics (STEM) opportunities related to the project, apprenticeship programs, and veteran employment programs.

These initiatives are anticipated to create jobs, support business development, and support income growth in the greater Cincinnati and Northern Kentucky regions. The scope of the progressive design-build phase is

[1] A disadvantaged business enterprise (DBE) is a for-profit small business where individuals who are minority or women or otherwise socially and economically disadvantaged own at least a 51 percent interest and control management and daily business operations (Source: USDOT).

considered to be particularly beneficial in terms of workforce development because it will offer opportunities to progress through multiple steps in project development all in one location and on one project. In support of these initiatives, KYTC and ODOT have formed a BSB Corridor Project Diversity & Inclusion Outreach Committee, which allows local practitioners and leaders to provide input about promoting diversity and inclusion as part of the Phase III contract. This committee will continue to meet throughout the duration of the project.

While project-related DBE participation, on-the-job training, and workforce development opportunities will be broadly available, EJ populations in the study area will be afforded equal opportunities to share in these benefits. Given the above, Concept I-W is not anticipated to result in adverse effects on the EJ population workforce. Concept I-W is expected to provide direct benefits to EJ populations in terms of job creation, business development, and income growth.

5.8 Indirect and Cumulative Effects

Indirect effects are impacts caused by the project that occur later in time or in an area that is farther removed in distance from the project. The type and extent of indirect effects varies for different projects, but they must be considered "reasonably foreseeable," or highly likely to occur because the project was built. Concept I-W is not anticipated to contribute indirectly to a change in the utilization of community resources that are used by or serve EJ communities. The project may indirectly improve economic and employment opportunities. In anticipation of the project, the dunnhumby USA headquarters (currently under new ownership and called 84.51°) relocated to a new, expanded site about one-half mile east and within a 1-mile radius of 17 census block groups with minority and/or low-income populations. The new headquarters anchored additional street-level commercial spaces that generated further economic growth in downtown Cincinnati. In addition, Concept I-W reconfigures several ramps in downtown Cincinnati to open up approximately 10 acres of land for potential redevelopment and/or public use directly adjacent to the Cincinnati CBD and in a census block group with minority and low-income populations.

Goals for DBE firm participation, mentoring, and support will be incorporated into the project's progressive design-build phase (Phase III). In addition, KYTC and ODOT have committed to developing an on-the-job training program to offer equal opportunity for the training of EJ and other populations to advance their skills toward journeyperson status in the highway construction trades. KYTC and ODOT have also committed to creating a workforce development plan to assist candidates seeking employment in the transportation industry or on related infrastructure projects (see Section 5.7). Therefore, Concept I-W may indirectly contribute to long-term enhancements in workforce diversity, employment, and income that could benefit EJ populations.

Given the above, Concept I-W is not expected to result in adverse indirect effects on EJ populations. Concept I-W is anticipated to indirectly contribute to job creation, economic development, and long-term workforce enhancements that will benefit EJ populations.

Cumulative effects are incremental impacts on the community or natural environment that occur from adding the impacts of one project to other past, present, and likely-to-occur projects. When added together, minor impacts from several projects can result in a greater cumulative impact on a community. The supplemental Environmental Assessment provides an analysis of cumulative effects for Concept I-W, including the

identification of other past, present, and reasonably foreseeable actions (through the year 2050) that were considered in the analysis.

Concept I-W will contribute to cumulative business and residential displacements in the greater Cincinnati and Northern Kentucky areas; however, business and residential relocations have been minimized to the greatest extent practicable and represent only some of the businesses, job opportunities, and residences available in the area. In addition, the partial acquisition of public recreational facilities will have a minor contribution to the cumulative loss of parkland. Concept I-W is also expected to have a minor contribution to the cumulative loss of historic resources. Concept I-W will improve community cohesion, improve traffic flow and safety for all modes of travel, improve air quality, abate noise, reduce flooding and storm sewer overflows, improve aesthetics, and provide additional economic opportunities, which will help to offset any cumulative effects from past, present, and reasonably foreseeable actions.

Cincinnati's West End, now partitioned into the Queensgate and West End neighborhoods, was historically impacted by urban renewal plans that were common in the United States in the mid-twentieth century. The West End was established in the early 1800s and grew to encompass the majority of the west side of downtown Cincinnati. By 1925, West End had become a vibrant Black community that housed almost 80 percent of the city's 38,000 African Americans. City urban renewal programs that began in earnest in the 1950s cleared the residential neighborhoods to create industrial zones suited to manufacturers with easy access to highways and to create separate industrial, commercial, and residential zones within the city. The Mill Creek Expressway (I-75) was constructed in conjunction with these urban renewal programs. In total, two thirds of the housing (between 13,147 and 22,354 low-cost dwellings) and more than half of the residential acreage in the West End was lost between 1950 and 1970, displacing between 50,561 and 54,471 predominately Black, low-income residents (75 percent of the residents of the West End).[1]

Concept I-W requires one commercial relocation (a small printing shop) and minor amounts of strip right of-way in the West End neighborhood. Concept I-W will not add to or exacerbate any disproportionate adverse effects in the West End community from prior actions or events. In recognition of the history of City-sponsored urban renewal and the original Mill Creek Expressway (I-75) construction and as an enhancement in the West End neighborhood, ODOT will work with the City of Cincinnati, which includes the West End Community Council, to develop content for an interpretive display describing the West End community in relation to historic City urban renewal and the Millcreek Expressway construction and to identify a location in proximity to the I-75 corridor to install the display.

Given the above, Concept I-W is anticipated to have a minor contribution to cumulative residential and commercial displacements, the loss of parkland, and the loss of historic resources. These cumulative effects will be experienced by both EJ and non-EJ communities. Given the distribution of the project's direct effects, the cumulative displacements and loss of parkland and historic resources will not be predominately borne by EJ populations, nor will the effects be appreciably more severe or greater in magnitude than the effects that will be suffered by the non-EJ population. In addition, cumulative effects will be offset by reductions in noise levels, flooding, and storm sewer overflows and improvements in community cohesion, traffic flow, safety, air quality,

[1] *A Brief History of Cincinnati's West End*. Compiled by Leigh Oldershaw, Susan Gasbarro, and Erica Schneider. May 18, 2023.

aesthetics, and economic opportunities. Therefore, Concept I-W is not expected to result in adverse cumulative effects on EJ populations.

5.9 Temporary Construction Impacts

During construction, the EJ study area will be temporarily impacted by increased traffic on local roads and reduced access to the I-71/I-75 corridor due to construction activities. These effects are anticipated to some extent for all modes of transportation, including vehicular, pedestrian, bicycle, and transit. Impacts are anticipated for both EJ and non-EJ communities.

KYTC and ODOT are working with local cities and counties to mitigate impacts from construction activities. Mitigation activities will include developing an overall Traffic Management Plan and a detailed Maintenance of Traffic (MOT) plan to maintain traffic operations through the corridor and minimize disruption to the surrounding communities. When preparing the MOT plan, KYTC and ODOT will work to minimize impacts on local businesses; evaluate impacts on public transportation and develop measures to maintain existing services; evaluate temporary detours to limit impacts from redirecting traffic through community sensitive areas; establish an Incident Management Plan to minimize diversion resulting from any incidents that occur during construction; communicate with trucking companies and mapping services to provide information about re-routing and delays; and provide for adequate signing during construction. These measures will minimize construction-related disruptions in both EJ and non-EJ communities.

Local cities and all relevant agencies within each city will have an opportunity to review and provide input on all aspects of MOT planning, plan development, and construction operations affecting the city. MOT and Incident Management Plans will also be coordinated with first responders, transit agencies, and the Regional Incident Management Task Force. Furthermore, in response to comments received during EJ outreach, ODOT has committed to work with the City of Cincinnati to conduct before/after surveys of roadways impacted by increased traffic during construction. ODOT will restore roadways to pre-construction conditions once the project is complete. Because most of the BSB corridor in Ohio is situated in census block groups with minority and/or low-income populations, this mitigation measure is anticipated to primarily benefit EJ communities. KYTC will also develop a vibration monitoring plan to protect historic resources. The above measures will minimize construction-related disruptions in both EJ and non-EJ communities.

During construction, a project website will provide regular updates regarding maintenance of traffic plans, current conditions, and upcoming changes. The website will provide an email address and phone number for the public to contact the contractor's designated representative with questions, concerns, or complaints regarding ongoing and planned construction activities. Information about construction sequencing, project highlights, and construction schedules will also be shared with the public through social media, e-newsletters, local media, presentations to local groups, and virtual project updates. KYTC and ODOT will develop reporting protocols to ensure that the contractor responds to inquiries in a timely manner and keeps KYTC and ODOT informed of community questions and concerns. In addition, the project’s communications team will provide timely notice to local cities prior to the public release of information related to any portion of the project located in or likely to have a substantial effect on that city. Individuals from of EJ and non-EJ communities will have equal access to all project communications.

Temporary dust, air quality, and construction noise impacts may affect residents and business owners in the EJ study area during construction. To mitigate these effects, KYTC and ODOT will develop and implement a dust control plan and other measures to minimize and prevent discharge of dust in the atmosphere. During construction, measures will also be implemented to minimize diesel emissions and to protect sensitive receptors from impacts of diesel exhaust fumes. KYTC and ODOT will also develop and implement an ambient air quality monitoring program for the following sensitive areas:

- In the vicinity of Beechwood Elementary and High School, which is not anticipated to directly benefit EJ populations.
- In the vicinity of Notre Dame Academy, which will benefit a census block group with a low-income population.
- East and west of I-71/I-75 between Edgecliff Road and West 5th Street, which will benefit three census block groups with low-income populations.
- East and west of I-75 between 9th Street and Findlay Street, which will benefit five census block groups with minority and low-income populations.

During construction, KYTC and ODOT will also implement measures to minimize construction noise in noise sensitive areas, including those in EJ communities. The project staff will be educated on noise sensitive receptors, including location, type, hours of operation, and any prior concerns communicated. Measures that will be implemented to minimize construction noise include careful selection of equipment to be utilized, utilization of well-maintained motorized equipment and muffler systems, selection of haul routes that will cause the least disturbance to noise sensitive receptors, use of existing and temporary features to shield noise sensitive receptors from construction activities, and scheduling of work to minimize noise impacts on noise sensitive receptors. Temporary construction impacts are anticipated to be the most disruptive in the 24 census block groups that are directly adjacent to the project corridor, 12 (50 percent) of which contain minority and/or low-income populations. The use of a progressive design-build process for Phase III will allow the project team to streamline the project's schedule and expedite construction to minimize the duration of temporary impacts. In addition, KYTC and ODOT will continue to evaluate temporary impacts and incorporate measures to minimize them to the greatest extent possible.

Given the above, Concept I-W will result in temporary adverse effects on EJ populations during construction. However, the impacts will be temporary in nature and minimized to the greatest extent possible. Temporary adverse construction effects will not be predominately borne by EJ populations, nor will the effects be appreciably more severe or greater in magnitude than the effects that will be suffered by the non-EJ population.

6. AVOIDANCE, MINIMIZATION, MITIGATION, AND ENHANCEMENT MEASURES

The following sections summarize the avoidance, minimization, mitigation, and enhancement measures incorporated into Concept I-W.

6.1 Avoidance and Minimization Measures

Concept I-W incorporates several refinements that reduce the project's overall footprint, including optimizing interchange geometry by utilizing the land formerly occupied by the dunnhumby USA headquarters, reducing shoulder widths to match updated design criteria, lowering design speeds to reduce the required radii of curvature, constructing retaining walls, and reducing the width of the companion bridge. As shown in Table 6, these refinements have resulted in substantial reductions in residential and commercial relocations when compared to Selected Alternative I (from the 2012 FONSI).

The 2012 EA/FONSI documented 40 residential relocations, with about 50 percent of those relocations occurring in EJ communities. Furthermore, the data reported in the 2012 EA/FONSI counted apartment buildings as one unit, and Selected Alternative I would have relocated closer to 80 households. The current total of 4 residential relocations represents up to a 95 percent reduction compared to the original design of Selected Alternative I approved in the 2012 EA/FONSI. Therefore, the potential adverse effects on EJ populations resulting from residential relocations have been avoided and minimized to the greatest extent practicable.

The 2012 EA/FONSI also quantified the removal of 204 feet of Longworth Hall as one commercial relocation, although the removal would have required 14 commercial tenants within that structure to relocate. When the commercial tenant relocations that were not quantified in the 2012 EA/FONSI are taken into account, Concept I-W requires two fewer full commercial relocations than Selected Alternative I (from the 2012 EA/FONSI). One (50 percent) of the reductions in commercial relocations occurred in an area with identified EJ populations.

Table 6: Relocations Comparison

State	Selected Alternative I (from 2012 EA/FONSI) Relocations (units or businesses)	Refined Alternative I (Concept I-W) Relocations (units or full take, partial take)
Kentucky		
Residential	40 units[1]	4 units
Commercial	6 businesses	5 full, 0 partial
Ohio		
Residential	0 units	0 units
Commercial	8 businesses[2]	19 full[3], 1 partial
Total		
Residential	40 units[1]	4 units
Commercial	14 businesses[2]	24 full, 1 partial

1. This total counted apartment buildings as one unit and would have relocated closer to 80 households.

2. This total counted the removal of 204 feet of Longworth Hall as one commercial relocation and would have relocated 14 commercial tenants within that structure.

3. Total includes 14 tenants relocated due to the removal of 204 feet of Longworth Hall. Two tenants already plan to relocate within the remaining portions of Longworth Hall.

The refinements incorporated into Concept I-W also reduced impacts on schools, historic resources, places of worship, and a hospital. Furthermore, the reconfigured Ezzard Charles Drive bridge was designed to avoid removing trees in Ezzard Charles Park, which is situated in a census block group with minority and low-income populations.

As stated in Section 1.3, Selected Alternative I (from the 2012 EA/FONSI) changed access in the Lewisburg neighborhood by closing Lewis Street at Pike Street. The refinements incorporated into Concept I-W allow Lewis Street to remain open, avoiding impacts to access in the Lewisburg neighborhood. Although Lewisburg is not an EJ community, an adjacent EJ community immediately to the east along Pike Street may also benefit from these avoidance measures.

6.2 Mitigation Measures

The following measures incorporated into Concept I-W will mitigate adverse effects in EJ communities:

- ODOT has fulfilled its commitment to compensate the City of Cincinnati for impacts to the Queensgate Playground and Ball Field. These commitments were documented in an *MOA Between ODOT and the City of Cincinnati Recreation Commission* executed on May 5, 2011. ODOT paid $198,050 to fulfill its financial commitments in the MOA on December 12, 2012. The City of Cincinnati reconfigured the ball fields in 2014. During construction, a proposed 10-foot noise barrier may be installed along the park and highway boundary in lieu of the limited access right-of-way fencing specified in the MOA. If noise public involvement concludes that a noise barrier will not be built, then ODOT has committed to installing the limited access right-of-way fencing as noted above (see Section 5.2).
- To mitigate impacts to the Goebel Park Complex, KYTC is returning 2.23 acres of land that is currently occupied by the West 5th Street ramp to the park. The replacement land will be at a higher elevation than the impacted area, which will reduce flooding in the complex. Other impacts to the Goebel Park Complex will be mitigated through reconstruction of the walking trail within the complex and funding for the development of a new Goebel Park Complex Master Plan, replacement and enhancement of the basketball courts or other outdoor recreation facilities within the park, and a relocated outdoor pool and associated facilities or other comparable aquatic facility serving the same purpose within the park (see Section 5.2).
- To mitigate impacts to Longworth Hall, ODOT committed to completing repairs, upgrades, restoration work, enhancements, and refurbishment on the portions of the building impacted by construction and the portions of the building to remain. These commitments were documented in a *Programmatic Agreement Among FHWA, ODOT, KYTC, the Ohio SHPO, the Kentucky SHPO, and the City of Covington.* ODOT's purchase of the full Longworth Hall property and activities in the building and on the exterior grounds during construction will not impact the building's continued use for commercial office, retail, and event space or the historic integrity of Longworth Hall (see Section 5.2).
- To mitigate noise impacts, noise barriers are proposed for areas west of I-71/I-75 between the Dixie Highway interchange and West 4th Street in Covington and east of I-71/I-75 from the southern project terminus to Pike Street in Covington. During final design, a noise abatement public meeting and

surveys will be conducted with benefited receptors at each location where noise barriers are proposed in accordance with the KYTC *Noise Analysis and Abatement Policy* (see Section 5.5.3).

- To mitigate noise impacts, noise barriers are proposed east of I-75 in the West End neighborhood. The noise barriers will be built from the Queensgate Playground and Ball Field to Linn Street and from south of Freeman Avenue to Bank Street. ODOT has also committed to constructing 57-inch barriers on the Liberty Street, Findlay Street, and Bank Street bridge parapets to further reduce tire pavement noise. During final design and in accordance with the ODOT *Analysis and Abatement of Highway Traffic Noise Policy Statement*, ODOT will conduct noise abatement public involvement with benefited receptors where noise abatement has been determined to be feasible and reasonable (see Section 5.5.3).
- To mitigate temporary construction impacts, KYTC and ODOT will develop an overall Traffic Management Plan, a detailed MOT plan, and an Incident Management Plan. KYTC and ODOT will also proactively communicate with local cities and the general public regarding construction activities. In addition, ODOT has committed to work with the City of Cincinnati to conduct before/after surveys of roadways impacted by increased traffic during construction. ODOT will restore roadways to pre-construction conditions once the project is complete. KYTC and ODOT will also implement a dust control plan and other measures to minimize and prevent discharge of dust, measures to minimize and prevent diesel emissions, an air quality monitoring and protection program, and measures to manage construction noise (see Section 5.9).

6.3 Enhancement Measures

The following enhancement measures incorporated into Concept I-W will benefit EJ communities:

- New and rebuilt sidewalks, shared-use paths, and bicycle lanes will be built parallel to I-71/I-75 and on every local street crossing of the highway. These facilities will enhance east-west connections across I-71/I-75, north-south connections adjacent to the highway, and may improve access to transit, employment, healthcare, cultural, recreational, and commercial destinations. In Kentucky, the multimodal facilities will improve access in and between the Westside, Mainstrasse, Lewisburg, Botany Hills, and Covington Central Business District neighborhoods. In Ohio, the multimodal facilities will improve access in and between the CBD Riverfront, Queensgate, and the West End neighborhoods (see Sections 5.3.2 and 5.3.3).
- KYTC is going above and beyond the parameters of its noise policy and proposing a noise/visual screening barrier to provide noise reduction in the Mainstrasse neighborhood and in the vicinity of the Goebel Park Complex. KYTC has also committed to coordinating with the City of Covington to evaluate the use of transparent noise barriers in some locations to preserve views of Goebel Park from the highway and to preserve views of the skyline and across I-71/I-75 from surrounding neighborhoods (see Section 5.5.3).
- KYTC and ODOT are separating interstate stormwater runoff from combined sewer systems to reduce flooding and combined sewer overflows occurring in the Peaselburg, Mainstrasse, Queensgate, and Camp Washington neighborhoods. In addition, during detailed design, KYTC will work with the City of Covington and Kentucky Sanitation District 1 to address surcharging in the Peaselburg neighborhood

based on the local design criteria for a 25-year storm, which will further reduce flooding in this neighborhood (see Section 5.5.4).

- KYTC and ODOT are closely coordinating the aesthetic plans for the project with the cities of Cincinnati, Covington, Fort Wright, and Fort Mitchell to further their goals of creating vibrant urban spaces throughout the corridor. Items to be incorporated into the project include landscaping, streetscapes, gateways, and treatments for piers, abutments, noise and noise/visual screening barriers, and retaining walls. Multiple aesthetics meetings will be held during final design to finalize aesthetics plans. The aesthetic enhancements will be located in every EJ community that abuts the BSB corridor (see Section 5.6).
- KYTC and ODOT are establishing goals for DBE firm participation, mentoring, and support during the project's progressive design-build contract (Phase III) (see Section 5.7).
- During the progressive design-build contract (Phase III), KYTC and ODOT will develop an on-the-job training program geared toward minorities, women, and disadvantaged persons (see Section 5.7).
- KYTC and ODOT will develop a workforce development plan to be implemented during the project's progressive design-build contract (Phase III) (see Section 5.7).
- Approximately 10 acres of excess land created by interchange and ramp refinements will be transferred to the City of Cincinnati for potential redevelopment and/or public use (see Section 5.8).
- In recognition of the history of development in West End, ODOT will work with the City of Cincinnati to identify a location in proximity to the I-75 corridor to install an interpretive display describing the West End community in relation to historic City urban renewal and the original Millcreek Expressway construction (see Section 5.8).

7. DISPRORPORTIONATELY HIGH AND ADVERSE EFFECT DETERMINATION

The purpose of this report is to identify beneficial and adverse effects of Concept I-W on EJ populations and to determine whether the project will have a disproportionately high and adverse effect on identified EJ populations. In the EJ study area, 28 of 76 census block groups (37 percent) contain identified minority populations, and 36 block groups (47 percent) contain identified low-income populations. Minority populations are concentrated in Ohio and the southeastern portion of the EJ study area in Kentucky. Low-income populations are broadly dispersed and are located directly adjacent to the project corridor.

A disproportionately high and adverse effect on minority and/or low-income populations occurs when an adverse effect is:

- Predominately borne by a minority and/or low-income population; or
- Will be suffered by the minority and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority and/or non-low-income population.[1]

[1] FHWA Order 6640.23A, June 14, 2012.

In accordance with FHWA's *Guidance on Environmental Justice and NEPA (December 16, 2011)*, consideration must be given to avoidance, minimization, and mitigation when evaluating whether an adverse effect to an EJ population will occur. A determination regarding disproportionately high and adverse effects with respect to minority and/or low-income populations is only required if the effects remain adverse after mitigation and benefits are considered.

7.1 Relocations

Concept I-W requires the relocation of four single-family residences in Kentucky, two of which are tenant occupied. Given the demographics of the EJ study area (see Appendix B), there is potential for one or more of the residential relocations to involve a minority or low-income owner or tenant. However, none (0 percent) of the residential relocations is in a census block group with identified EJ populations. In addition, avoidance and minimization measures incorporated into Concept I-W have reduced the number of required residential relocations by up to 95 percent. Therefore, the potential adverse effects on EJ populations resulting from residential relocations have been avoided and minimized to the greatest extent practicable.

Concept I-W requires 1 partial and 24 full (including 14 tenants in one structure) commercial relocations. One of the Kentucky commercial relocations is in a census block group with a low-income population. Seventeen (17) of the Ohio commercial relocations are in census block groups with minority populations, low-income populations, or both. In addition, Concept I-W requires a partial relocation on one Ohio commercial property, which is in census a block group with minority and low-income populations. Commercial relocations in Kentucky include an auto body shop, an auto service shop, a car dealership, a radio tower, and a heating and air conditioning company. In Ohio, relocated businesses include a printing shop, a fast-food restaurant, the dunnhumby USA headquarters, two vacant bar/night clubs, a vacant gas station, office space for six businesses, three recording or photography studios, an escape room, storage space for three businesses, and the removal of one building on property owned by a real estate company. Fourteen (14) of the commercial relocations in Ohio are tenants in Longworth Hall, six of which have short term, month-to-month leases. In addition, two tenants already plan to relocate within the remaining portions of Longworth Hall. With the exception of the tenants in Longworth Hall, the Ohio businesses have already been relocated and removed under the 2012 FONSI. KYTC began acquiring the right-of-way for the project in early 2023. The residential and commercial relocations are anticipated to be complete in 2024. ODOT is in the process of purchasing the full Longworth Hall property at a mutually agreed upon price and from a willing seller as a result of the right-of-way negotiation process. The portions of the building not removed will remain occupied and will continue to be utilized for commercial office, retail, and event space. ODOT may use interior space or the exterior grounds surrounding the building during the project's construction, but no impacts to the building's continued use for commercial office, retail, and event space are anticipated.

Avoidance and minimization measures incorporated into Concept I-W have reduced the number of required commercial relocations. The only major employer displaced is the dunnhumby USA headquarters. However, a new, expanded headquarters (currently under new ownership and called 84.51°) has been built about one-half mile east in downtown Cincinnati. Ongoing acquisition activities in Kentucky and Ohio have indicated that affected businesses will be able to relocate within the same geographic area if so desired, either in existing structures or new construction. None of the commercial relocations is expected to result in substantial job loss

or economic impact, nor are they known to be substantial employers or serve unique needs within EJ communities. Finally, the acquisition of property for right-of-way (including residential and business relocations) has been, and will continue to be, in accordance with the Uniform Act. Housing of last resort will be available to ensure that decent, safe, and sanitary comparable replacement housing is within the financial means of the displaced person.

None of the residential relocations will occur in identified EJ communities. None of the commercial relocations is expected to result in substantial job loss or economic impact, nor are they known to be substantial employers or serve unique needs within EJ communities. In addition, avoidance and minimization measures incorporated into Concept I-W have reduced residential and commercial relocations in EJ communities. Therefore, adverse relocation effects will not be predominately borne by an EJ population. Given the above, adverse relocation effects on EJ populations are not anticipated to be appreciably more severe or greater in magnitude than the adverse effects that will be suffered by the non-EJ population. Relocations resulting from Concept I-W will not cause a disproportionately high and adverse effect on EJ populations.

7.2 Community Resources

Concept I-W will also require minor amounts of right-of-way from the Hillsdale Subdivision Historic District and the removal of contributing resources within the Lewisburg Historic District; however, neither historic district is located in an area with identified EJ populations. Concept I-W will result in minor impacts on schools, places of worship, and a hospital that are located in or may serve EJ communities. However, no temporary or permanent impacts to the operations of these community facilities are anticipated. A minor amount of new right-of-way will be required from the Elberta Apartments Historic District, which is located in a census block group with low-income populations, but Concept I-W will have no adverse effect on the historic district. Concept I-W will also result in temporary impacts to the Firefighters Memorial and Ezzard Charles Park, which are situated in census block groups with minority and low-income populations; however, access to the parks will be maintained at all times, and no permanent impacts will occur. In addition, Concept I-W will impact the Queensgate Playground and Ball Field, the Goebel Park Complex, and historic Longworth Hall, which are all situated in census block groups with minority and/or low-income populations. However, mitigation measures incorporated into Concept I-W will resolve adverse effects on community resources for EJ populations. Therefore, a determination of disproportionately high and adverse effects is not warranted.

7.3 Access, Mobility and Safety

Concept I-W includes several features that will improve access, mobility, and safety for vehicular traffic traveling to, from, and within EJ communities. Concept I-W is also anticipated to benefit EJ communities by reducing traffic congestion on the local street networks in those communities. Minor traffic rerouting will occur due to ramp changes in census block groups with minority and/or low-income populations; however, adverse effects are not anticipated because traffic will only need to reroute about one to two city blocks, and sufficient lanes will be provided to maintain acceptable traffic flow.[1]

[1] Traffic operations for Concept I-W were analyzed using certified traffic for the years 2029 and 2049 and are documented in an *Interchange Modification Study Addendum (December 2023)* prepared for the project.

Concept I-W incorporates new and improved pedestrian and bicycle infrastructure in EJ communities. The proposed improvements will directly benefit EJ communities by improving safety; increasing the options available to pedestrians and bicyclists; potentially improving access to employment, healthcare, cultural, recreational, and commercial destinations; improving mobility along I-71/I-75; and enhancing community connectivity along and across the I-71/I-75 corridor.

Concept I-W will reduce traffic congestion, improving reliability for local bus routes that use the BSB for 210 trips every weekday, thus benefitting minority and low-income individuals who utilize these transit routes. In addition, new and improved sidewalks, shared-use paths, and bicycle lanes will enhance connections to existing bus stops and routes that are located in and serve EJ communities.

Given the above, Concept I-W is expected to benefit EJ communities by improving access, mobility, and safety for all modes of transportation within those communities. Adverse effects to access, mobility, and safety will not occur, and a determination of disproportionately high and adverse effects is not warranted.

7.4 Environmental

When the 2050 build scenario is compared to the 2020 existing scenario, vehicle emissions throughout the EJ study area are expected to be substantially reduced. When the 2050 build scenario is compared to the 2050 no-build scenario, vehicle emissions throughout the EJ study area are expected to be less or approximately the same, with slightly greater levels of PM2.5 in Kenton County. Twenty (20) percent of the census block groups with minority and/or low-income populations in the EJ study area are in Kenton County; therefore, the slightly greater level of PM2.5 when the 2050 build scenario is compared to the 2050 no-build scenario will not be predominately borne by EJ populations nor is it appreciably more severe or greater in magnitude than the level of PM2.5 emissions for the non-EJ population.

Based on the emissions burdens analysis, Concept I-W is expected to have minimal effects on climate change in the EJ study area. Furthermore, stormwater management measures incorporated into Concept I-W will promote climate resilience, and the project will be implemented in accordance with KYTC's and ODOT's *Transportation Asset Management Plans*. EJ and non-EJ communities will equally share in the benefits resulting from these efforts to address climate change.

For Concept I-W, noise impacts are predicted in 21 census block groups in the EJ study area, including 5 (24 percent) census block groups with minority populations and 9 (43 percent) census block groups with low-income populations. Noise barriers are proposed to provide noise mitigation and noise/visual screening barriers are proposed to provide enhanced sound reduction in 16 census block groups where noise impacts were identified, including 7 (44 percent) census block groups with minority and/or low-income populations. There are a total of 116 impacted noise sensitive receptors in the 5 census block groups where noise or noise/visual screening barriers are not proposed. These include 36 receptors (31 percent) in census block groups with EJ populations and 80 receptors (69 percent) in census block groups where EJ populations were not identified. Therefore, the majority of the noise impacts where noise or noise/visual screening barriers are not proposed occur in non-EJ communities.

Concept I-W is anticipated to benefit EJ populations by reducing flooding and combined sewer overflows in EJ communities.

Given the above, Concept I-W is not anticipated to result in adverse effects on air quality, greenhouse gases and climate change, or stormwater in EJ communities. Therefore, a determination of disproportionately high and adverse effects for air quality, greenhouse gases and climate change, and stormwater is not warranted.

Noise impacts resulting from Concept I-W will not be predominately borne by EJ populations. In addition, proposed noise and noise/visual screening barriers will mitigate noise impacts and provide enhanced sound reduction in both EJ and non-EJ communities. Given the above, adverse noise effects on EJ populations are not anticipated to be appreciably more severe or greater in magnitude than the adverse noise effects that will be suffered by the non-EJ population. Therefore, noise impacts will not result in a disproportionately high and adverse effect on EJ populations.

7.5 Visual

Concept I-W will result in minor visual changes due to the new companion bridge over the Ohio River, raising and widening I-71/I-75, the construction of a new C-D roadway system, retaining walls, vegetation removal, and noise barriers. However, the minor visual changes associated with Concept I-W will not be predominately borne by EJ populations, nor will the effects be appreciably more severe or greater in magnitude than the visual changes experienced by non-EJ populations. The aesthetics incorporated into Concept I-W are anticipated to provide direct benefits to EJ communities by improving the visual character of the project corridor and helping to foster vibrant neighborhood spaces in those communities. Given the above, Concept I-W is not anticipated to result in an adverse effect on the visual character of EJ communities. Therefore, a determination of disproportionately high and adverse effects is not warranted.

7.6 Workforce Development

Concept I-W will provide opportunities for DBE firm participation and implement an on-the-job training program and workforce development plan. While these economic opportunities will be broadly available, EJ populations in the study area will be afforded equal opportunities to share in the benefits. As a result, Concept I-W is expected to provide direct benefits to EJ populations in terms of job creation, business development, and income growth. Therefore, no adverse effects on the EJ population workforce will occur, and a determination of disproportionately high and adverse effects is not warranted.

7.7 Indirect and Cumulative Effects

The relocation of the former dunnhumby USA headquarters helped to create new jobs and economic activity within a 1-mile radius of 17 census block groups with minority and/or low-income populations. In addition, Concept I-W will result in approximately 10 acres of land within an EJ community being freed up and subsequently transferred to the City of Cincinnati for potential redevelopment and/or public use. Opportunities for DBE firm participation, on-the-job training, and workforce development programs incorporated into the project may also indirectly contribute to long-term enhancements in workforce diversity, employment, and income that will benefit EJ populations. Therefore, Concept I-W is expected to indirectly contribute to job creation, economic development, and long-term workforce enhancements that will benefit EJ populations.

Concept I-W will have a minor contribution to cumulative business and residential displacements, loss of parkland, and loss of historic resources. These cumulative effects will be experienced by both EJ and non-EJ communities. Given the distribution of the project's direct effects, the cumulative displacements and loss of parkland and historic resources will not be predominately borne by EJ populations, nor will the effects be appreciably more severe or greater in magnitude than the effects that will be suffered by the non-EJ population. Concept I-W will not add to or exacerbate any disproportionate adverse effects in the West End community from prior actions or events. Concept I-W will improve community cohesion, improve traffic flow and safety for all modes of travel, improve air quality, abate noise, reduce flooding and storm sewer overflows, improve aesthetics, and provide additional economic opportunities, which will help to offset any cumulative effects from past, present, and reasonably foreseeable actions. Therefore, no adverse indirect or cumulative effects on EJ populations will occur, and a determination of disproportionately high and adverse effects is not warranted.

7.8 Temporary Construction Impacts

Temporary access and mobility, noise, and air quality impacts are anticipated during construction, resulting in adverse effects on both EJ and non-EJ communities. Impacts are anticipated to be the most disruptive in the 24 census block groups that are directly adjacent to the project corridor, 12 (50 percent) of which contain minority and/or low-income populations. However, these impacts will be minimized to the greatest extent practicable through proactive communication with local cities and the public and the development of a Traffic Management Plan, MOT plans, an Incident Management Plan, a dust control plan and other measures to minimize and prevent discharge of dust, measures to minimize and prevent diesel emissions, an ambient air quality monitoring program, and measures to manage construction noise. These measures will minimize construction-related disruptions in both EJ and non-EJ communities. ODOT has also committed to restore roadways impacted by increased traffic during construction to pre-construction conditions, which will primarily benefit EJ communities. Therefore, the temporary construction impacts will not result in a disproportionately high and adverse effect on EJ populations.

7.9 Conclusion

Table 7 summarizes the adverse effects for non-EJ and EJ populations in the study area. Table 8 summarizes benefits for non-EJ and EJ populations in the study area. Based on the discussion and analysis in this report and summarized in the below tables, the temporary and permanent adverse effects to EJ populations will be minor, will not be predominately borne by EJ populations, and are not appreciably more severe or greater in magnitude than those experienced by non-EJ populations. In addition, EJ communities have been, and will continue to be, provided full and fair participation in the transportation decision-making process. Therefore, Concept I-W will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23A. Furthermore, several avoidance, minimization, mitigation, and enhancement measures have been incorporated into Concept I-W to reduce adverse effects and provide additional benefits.

Table 7: Summary of Adverse Effects

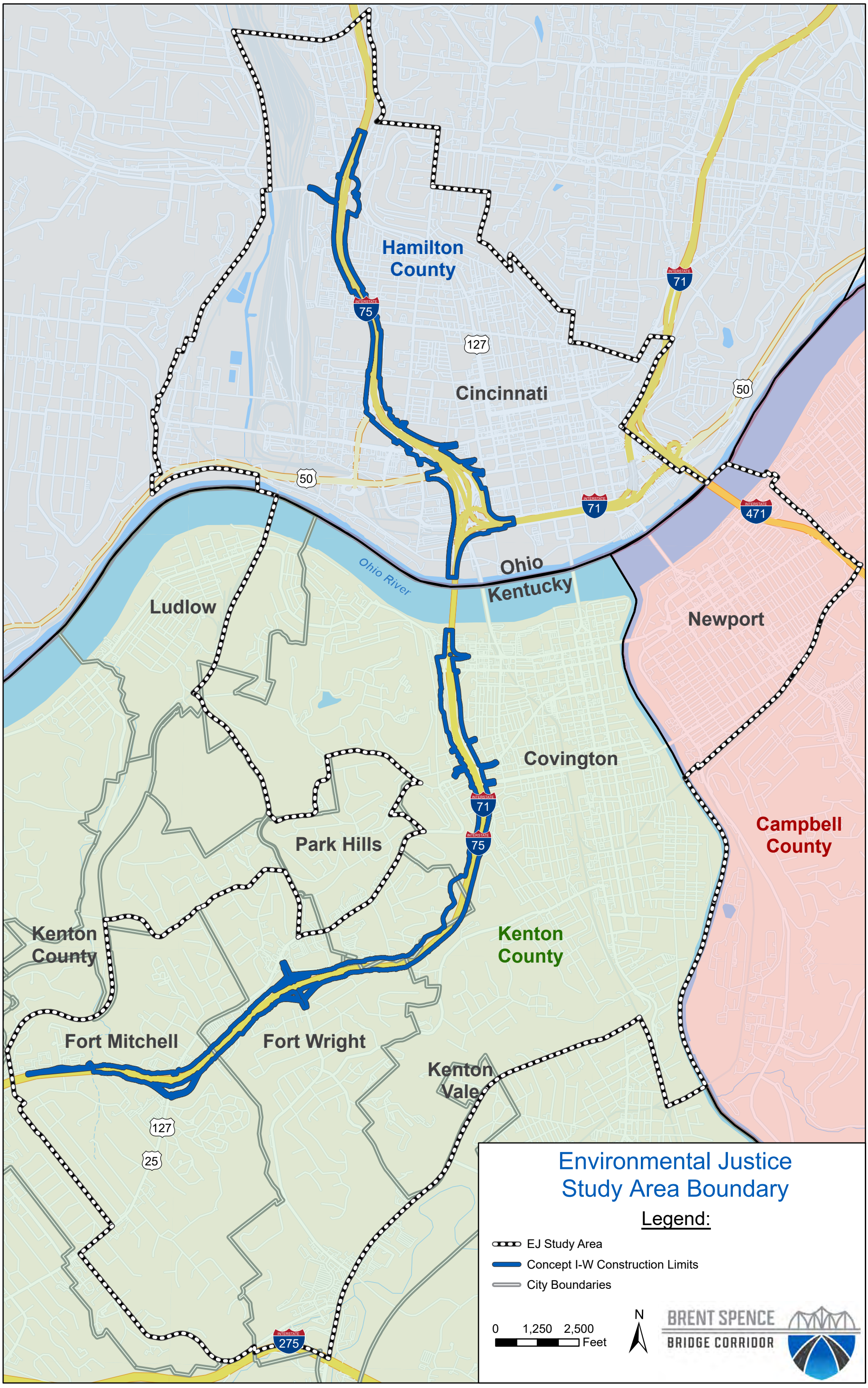
Evaluation Area	Adverse Effects		Disproportionately High and Adverse?[1]
	Non-EJ Population	EJ Population	
Relocations	Adverse effects due to residential and commercial relocations	Adverse effects due to residential and commercial relocations	No
Community Resources	No adverse effects when mitigation for parks and historic resources is considered	No adverse effects when mitigation for parks and historic resources is considered	N/A
Access and Mobility			
Vehicular	No adverse effects	No adverse effects	N/A
Pedestrian and Bicycle	No adverse effects	No adverse effects	N/A
Transit	No adverse effects	No adverse effects	N/A
Safety	No adverse effects	No adverse effects	N/A
Environmental			
Air Quality	No adverse effects	No adverse effects	N/A
Greenhouse Gases and Climate Change	No adverse effects	No adverse effects	N/A
Noise	Minor adverse effects due to noise impacts in a small number of areas where noise or noise/visual screening barriers are not proposed	Minor adverse effects due to noise impacts in a small number of areas where noise or noise/visual screening barriers are not proposed	No
Stormwater	No adverse effects	No adverse effects	N/A
Visual	No adverse effects when benefits and enhancements are considered	No adverse effects when benefits and enhancements are considered	N/A
Workforce Development	No adverse effects	No adverse effects	N/A
Indirect and Cumulative	No adverse effects when benefits, mitigation, and enhancements are considered	No adverse effects when benefits, mitigation, and enhancements are considered	N/A
Temporary Construction	Temporary adverse effects due to increased traffic, reduced access, and construction dust and noise	Temporary adverse effects due to increased traffic, reduced access, and construction dust and noise	No

1. *In accordance with FHWA's Guidance on Environmental Justice and NEPA (December 16, 2011), a determination regarding disproportionately high and adverse effects is only warranted if the effects remain adverse after mitigation and benefits are considered.*

Table 8: Summary of Benefits

Evaluation Area	Anticipated Benefits		Equally Share in Benefits?
	Non-EJ Population	EJ Population	
Relocations	None	None	N/A
Community Resources	Replacements and enhancements to park facilities	Replacements and enhancements to park facilities	Yes
Access and Mobility			
Vehicular	Improved traffic flow and access	Improved traffic flow and access	Yes
Pedestrian and Bicycle	New and improved multimodal facilities	New and improved multimodal facilities	Yes
Transit	Improved transit connections and reliability for transit on I-71/I-75	Improved transit connections and reliability for transit on I-71/I-75	Yes
Safety	Improved safety for vehicles, pedestrians, and bicyclists	Improved safety for vehicles, pedestrians, and bicyclists	Yes
Environmental			
Air Quality	Reduced vehicle emissions over existing conditions	Reduced vehicle emissions over existing conditions	Yes
Greenhouse Gases and Climate Change	Reduced greenhouse gas emissions over existing conditions, improved climate resilience	Reduced greenhouse gas emissions over existing conditions, improved climate resilience	Yes
Noise	Reduced noise due to additional noise/visual screening barriers above and beyond policy requirements	Reduced noise due to additional noise/visual screening barriers above and beyond policy requirements	Yes
Stormwater	Reduced flooding and combined sewer overflows	Reduced flooding and combined sewer overflows	Yes
Visual	Improved aesthetics	Improved aesthetics	Yes
Workforce Development	Job creation and opportunities for business development and income growth	Job creation and opportunities for business development and income growth	Yes
Indirect and Cumulative	Indirect enhancements in long-term workforce diversity, employment, and income growth	Indirect enhancements in long-term workforce diversity, employment, and income growth Installation of an interpretive display describing the West End community in relation to historic City urban renewal and the original Millcreek Expressway construction	Yes
Temporary Construction	None	None	N/A

Appendix A:
Study Area and Population Maps


Hamilton County
Cincinnati
Ohio River
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Kentucky
Ludlow
Newport
Covington
Campbell County
Park Hills
Kenton County
Kenton County
Fort Mitchell
Fort Wright
Kenton Vale
75
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471
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275
Environmental Justice Study Area Boundary
Legend:
EJ Study Area
Concept I-W Construction Limits
City Boundaries
0 1,250 2,500
Feet
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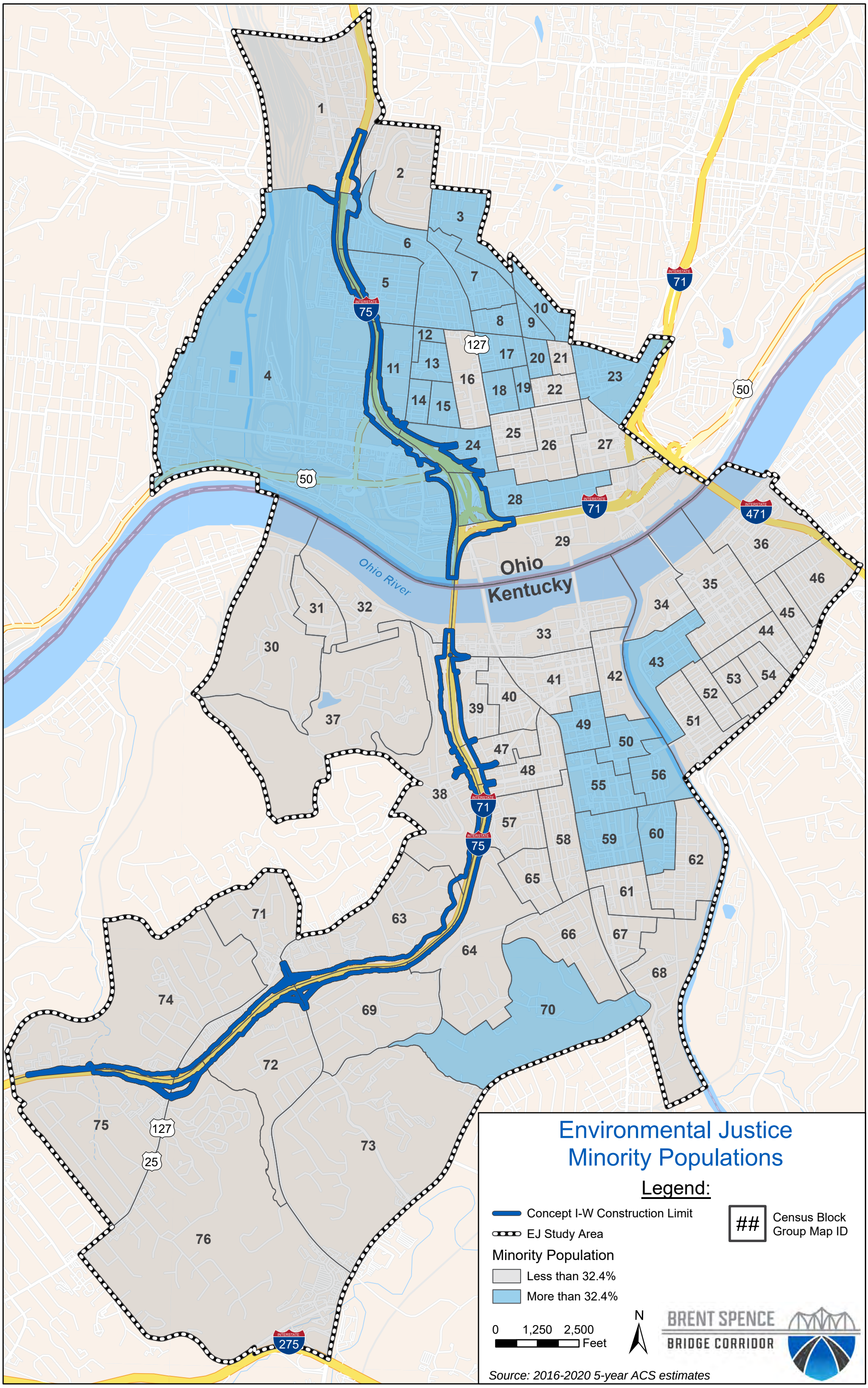
BRENT SPENCE
BRIDGE CORRIDOR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Ohio River
Ohio
Kentucky
INTERSTATE 75
INTERSTATE 71
INTERSTATE 471
INTERSTATE 275
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127
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Environmental Justice
Minority Populations
Legend:
Concept I-W Construction Limit
EJ Study Area
Minority Population
Less than 32.4%
More than 32.4%
##
Census Block Group Map ID
0 1,250 2,500
Feet
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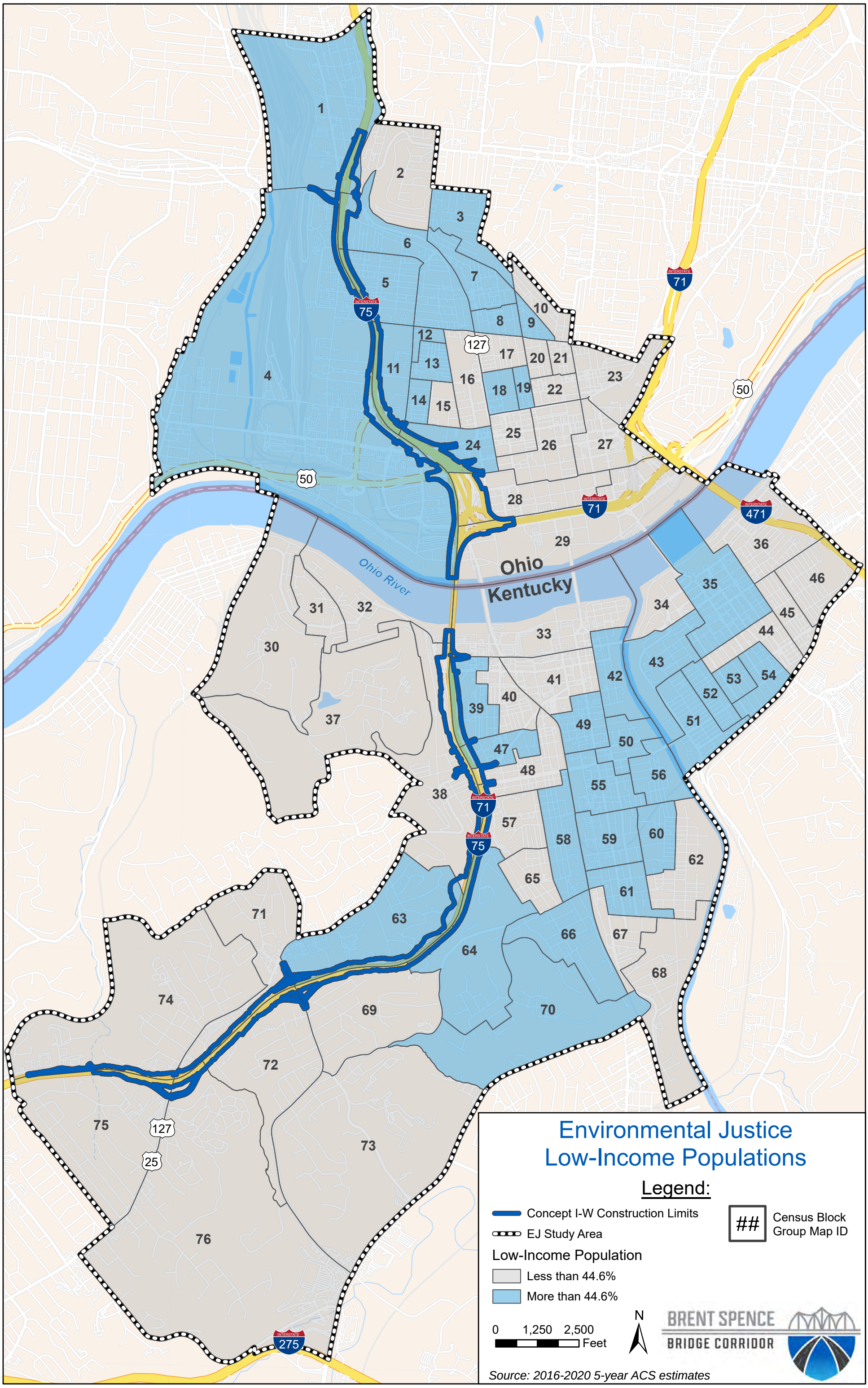
BRENT SPENCE
BRIDGE CORRIDOR
Source: 2016-2020 5-year ACS estimates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Ohio River
Ohio
Kentucky
INTERSTATE 75
INTERSTATE 71
INTERSTATE 471
INTERSTATE 275
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127
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Environmental Justice
Low-Income Populations
Legend:
Concept I-W Construction Limits
EJ Study Area
Census Block Group Map ID
Low-Income Population
Less than 44.6%
More than 44.6%
0 1,250 2,500
Feet
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BRENT SPENCE
BRIDGE CORRIDOR
Source: 2016-2020 5-year ACS estimates

Appendix B:
Population Tables

Table 1: Population Characteristics - Minority

Geography	Total Population	Minority	
		Population	Percentage
State of Kentucky	4,461,952	710,214	15.92%
State of Ohio	11,675,275	2,533,905	21.70%
Campbell County, KY	93,608	7,467	7.98%
Kenton County, KY	166,552	19,787	11.88%
Hamilton County, OH	815,790	288,846	35.41%
Covington, KY	40,466	9,381	23.18%
Fort Mitchell, KY	8,278	424	5.12%
Fort Wright, KY	5,766	633	10.98%
Park Hills, KY	2,993	636	21.25%
Cincinnati, OH	302,687	156,854	51.82%
EJ Study Area	71,496	23,199	32.45%

Map ID	Census Block Group	Total Population	Minority	
			Population	Percentage
1	390610028002	370	36	9.73%
2	390610027001	1,688	391	23.16%
3	390610026002	1,344	527	39.21%
4	390610263001	1,132	437	38.60%
5	390610269002	2,481	2,366	95.36%
6	390610269001	612	217	35.46%
7	390610016001	448	390	87.05%
8	390610016002	348	247	70.98%
9	390610017002	242	211	87.19%
10	390610017001	894	514	57.49%
11	390610002001	897	839	93.53%
12	390610264002	568	368	64.79%
13	390610264001	884	847	95.81%
14	390610264005	1,022	899	87.96%
15	390610264004	52	18	34.62%
16	390610264003	444	62	13.96%
17	390610009001	1,018	397	39.00%
18	390610009003	258	124	48.06%
19	390610009002	556	230	41.37%
20	390610010001	648	419	64.66%
21	390610010002	660	83	12.58%
22	390610010003	335	41	12.24%
23	390610011001	980	363	37.04%
24	390610265001	763	696	91.22%
25	390610007002	566	66	11.66%
26	390610007003	926	163	17.60%
27	390610007001	453	120	26.49%
28	390610265003	1,119	390	34.85%
29	390610265002	842	270	32.07%
30	211170638003	1,090	159	14.59%
31	211170638002	509	46	9.04%
32	211170638001	659	61	9.26%
33	211170670004	607	17	2.80%
34	210370501001	131	38	29.01%
35	210370532001	1,863	448	24.05%
36	210370532002	1,370	270	19.71%
37	211170638004	901	110	12.21%
38	211170616001	1,191	372	31.23%
39	211170603002	785	108	13.76%
40	211170603001	805	72	8.94%
41	211170670002	1,247	148	11.87%
42	211170670003	900	77	8.56%
43	210370501002	1,372	582	42.42%
44	210370505001	1,019	89	8.73%
45	210370504001	1,248	168	13.46%
46	210370504002	1,126	100	8.88%
47	211170607002	647	77	11.90%
48	211170607001	930	191	20.54%
49	211170670001	940	768	81.70%
50	211170671002	856	756	88.32%
51	210370506002	832	175	21.03%
52	210370506001	915	279	30.49%
53	210370505003	521	36	6.91%
54	210370505002	425	47	11.06%
55	211170671003	1,005	462	45.97%
56	211170671001	677	484	71.49%
57	211170650002	404	23	5.69%
58	211170650001	785	136	17.32%
59	211170609001	1,110	591	53.24%
60	211170610002	803	379	47.20%
61	211170609002	1,215	302	24.86%
62	211170610001	1,443	319	22.11%
63	211170649003	1,377	391	28.40%
64	211170651001	1,171	269	22.97%
65	211170650004	1,223	303	24.78%
66	211170650003	835	121	14.49%
67	211170611002	669	130	19.43%
68	211170611001	795	88	11.07%
69	211170652001	1,303	41	3.15%
70	211170651002	2,302	1,593	69.20%
71	211170648003	459	43	9.37%
72	211170652002	1,099	265	24.11%
73	211170652003	1,745	120	6.88%
74	211170648002	1,633	57	3.49%
75	211170647002	2,317	141	6.09%
76	211170647001	1,687	16	0.95%

Source: U.S. Census Bureau American Community Survey 2020 5-Year Estimates, Table B03002

Note: Light blue shading indicates census block groups where the percent minority population is above the percent minority population for the EJ Study Area.

Table 2: Population Characteristics - Low Income

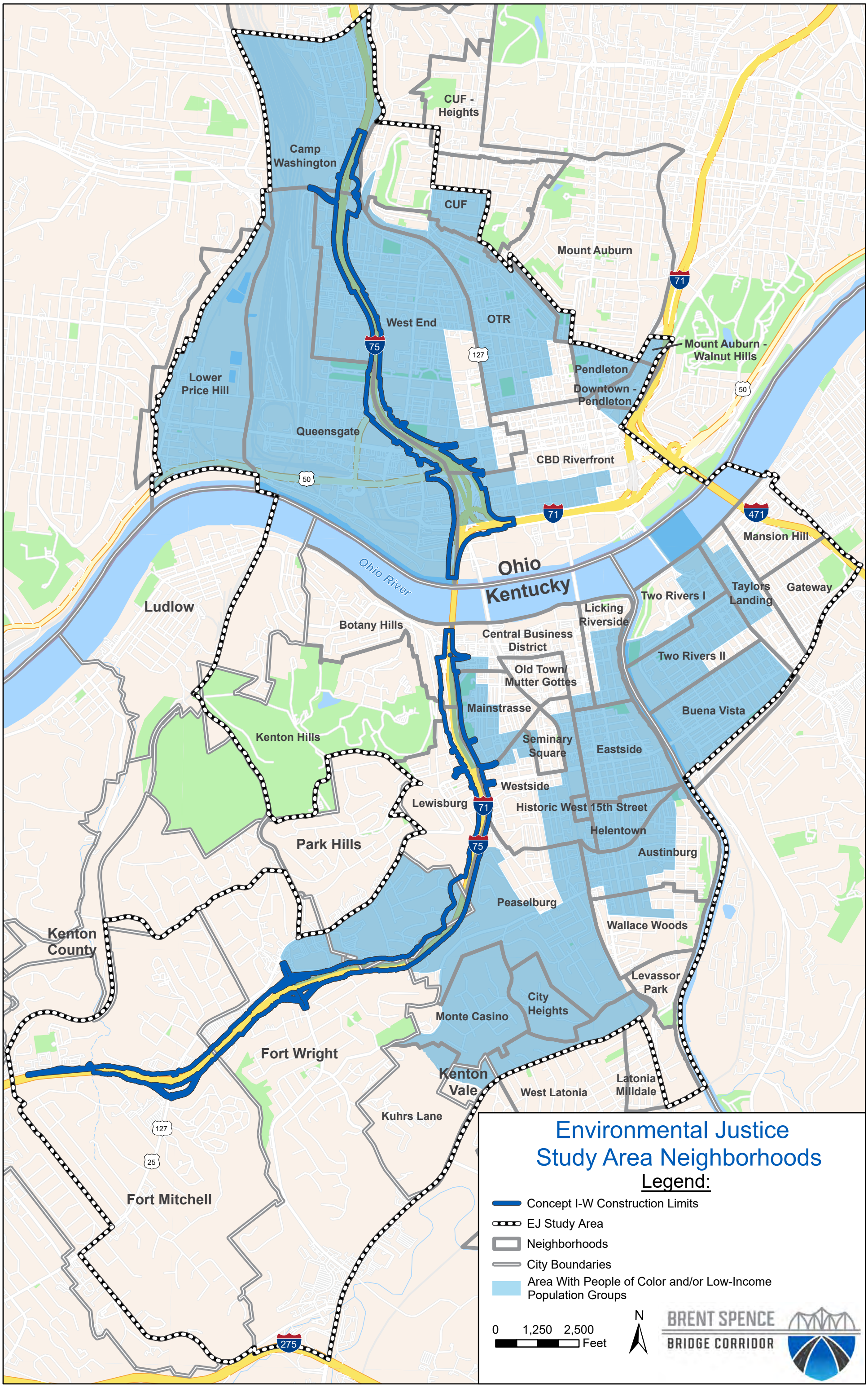
Geography	Total Population	Low Income	
		Population	Percentage
State of Kentucky	4,322,881	1,539,596	35.62%
State of Ohio	11,350,378	3,460,459	30.49%
Campbell County, KY	90,118	22,851	25.36%
Kenton County, KY	164,265	41,645	25.35%
Hamilton County, OH	798,152	246,341	30.86%
Covington, KY	39,440	16,203	41.08%
Fort Mitchell, KY	8,231	1,319	16.02%
Fort Wright, KY	5,755	987	17.15%
Park Hills, KY	2,917	930	31.88%
Cincinnati, OH	291,198	131,267	45.08%
EJ Study Area	70,002	31,228	44.61%

Map ID	Census Block Group	Total Population	Low Income	
			Population	Percentage
1	390610028002	370	201	54.32%
2	390610027001	1,688	750	44.43%
3	390610026002	1,344	905	67.34%
4	390610263001	1,104	938	84.96%
5	390610269002	2,452	2,159	88.05%
6	390610269001	612	434	70.92%
7	390610016001	448	340	75.89%
8	390610016002	346	231	66.76%
9	390610017002	242	234	96.69%
10	390610017001	894	378	42.28%
11	390610002001	897	760	84.73%
12	390610264002	568	502	88.38%
13	390610264001	884	710	80.32%
14	390610264005	1,022	651	63.70%
15	390610264004	52	0	0.00%
16	390610264003	444	31	6.98%
17	390610009001	1,010	443	43.86%
18	390610009003	258	258	100.00%
19	390610009002	530	277	52.26%
20	390610010001	645	223	34.57%
21	390610010002	660	81	12.27%
22	390610010003	335	37	11.04%
23	390610011001	980	351	35.82%
24	390610265001	763	693	90.83%
25	390610007002	566	116	20.49%
26	390610007003	926	152	16.41%
27	390610007001	359	63	17.55%
28	390610265003	1,117	78	6.98%
29	390610265002	842	38	4.51%
30	211170638003	1,051	216	20.55%
31	211170638002	509	135	26.52%
32	211170638001	659	270	40.97%
33	211170670004	607	33	5.44%
34	210370501001	131	41	31.30%
35	210370532001	1,017	513	50.44%
36	210370532002	1,370	160	11.68%
37	211170638004	901	145	16.09%
38	211170616001	1,172	312	26.62%
39	211170603002	785	377	48.03%
40	211170603001	804	295	36.69%
41	211170670002	1,227	404	32.93%
42	211170670003	883	405	45.87%
43	210370501002	1,334	1,071	80.28%
44	210370505001	1,019	431	42.30%
45	210370504001	1,248	424	33.97%
46	210370504002	1,126	232	20.60%
47	211170607002	637	295	46.31%
48	211170607001	930	325	34.95%
49	211170670001	940	636	67.66%
50	211170671002	856	629	73.48%
51	210370506002	832	592	71.15%
52	210370506001	915	736	80.44%
53	210370505003	521	338	64.88%
54	210370505002	411	296	72.02%
55	211170671003	1,005	640	63.68%
56	211170671001	671	417	62.15%
57	211170650002	404	162	40.10%
58	211170650001	785	381	48.54%
59	211170609001	1,110	803	72.34%
60	211170610002	803	425	52.93%
61	211170609002	1,190	617	51.85%
62	211170610001	1,346	595	44.21%
63	211170649003	1,377	754	54.76%
64	211170651001	1,161	553	47.63%
65	211170650004	1,223	359	29.35%
66	211170650003	835	551	65.99%
67	211170611002	669	232	34.68%
68	211170611001	795	167	21.01%
69	211170652001	1,303	149	11.44%
70	211170651002	2,237	1,629	72.82%
71	211170648003	459	45	9.80%
72	211170652002	1,099	322	29.30%
73	211170652003	1,668	382	22.90%
74	211170648002	1,633	257	15.74%
75	211170647002	2,299	144	6.26%
76	211170647001	1,687	299	17.72%

Source: U.S. Census Bureau American Community Survey 2020 5-Year Estimates, Table C17002

Notes: (1) Totals are for population for whom poverty status is determined. (2) Light blue shading indicates census block groups where the percent low-income population is above the percent low-income population for the EJ Study Area.

Appendix C:
Neighborhood Map


CUF - Heights
Camp Washington
CUF
Mount Auburn
West End
OTR
Mount Auburn - Walnut Hills
Pendleton
Downtown - Pendleton
Lower Price Hill
Queensgate
CBD Riverfront
Mansion Hill
Ohio River
Ohio
Kentucky
Ludlow
Botany Hills
Licking Riverside
Two Rivers I
Taylors Landing
Gateway
Central Business District
Two Rivers II
Old Town/ Mutter Gottes
Mainstrasse
Buena Vista
Kenton Hills
Seminary Square
Eastside
Westside
Lewisburg
Historic West 15th Street
Helentown
Park Hills
Austinburg
Peaselburg
Wallace Woods
Kenton County
Levassor Park
City Heights
Monte Casino
Fort Wright
Kenton Vale
West Latonia
Latonia Milldale
Kuhrs Lane
Fort Mitchell
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Environmental Justice
Study Area Neighborhoods
Legend:
Concept I-W Construction Limits
EJ Study Area
Neighborhoods
City Boundaries
Area With People of Color and/or Low-Income Population Groups
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BRIDGE CORRIDOR

Appendix D:
Targeted Environmental Justice Outreach Summary

Brent Spence Bridge Corridor Project
Targeted Environmental Justice Outreach Summary
Supplemental Environmental Assessment Process (2022-2023)

Targeted environmental justice (EJ)/neighborhood outreach occurred from November 2022 to January 2023. The total attendance at various outreach meetings was 418, and 373 total comments were received.

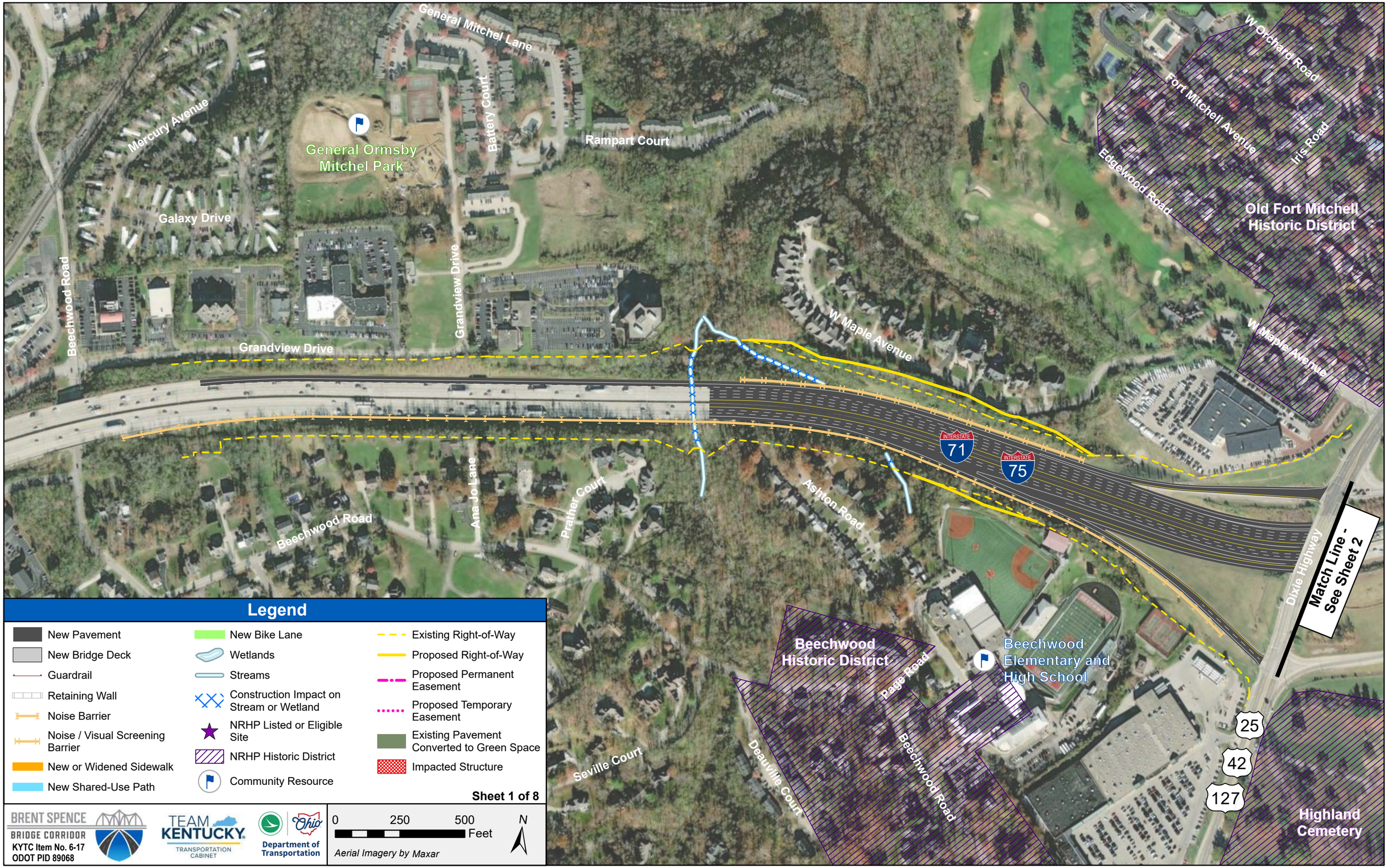
Date	Activity	Comments
November 15, 2022	• CUF neighborhood meeting (OH) • PublicInput.com targeted neighborhood outreach site goes live	• 30 in attendance (excluding the project team). • General questions about local connections to the interstate, multimodal accommodations, construction, funding, aesthetics, and property impacts (not specific to potential DHAE impacts on EJ communities). • 0 comment forms returned at meeting.
November 21, 2022	Mainstrasse neighborhood meeting (KY)	• 12 in attendance (excluding the project team). • Questions about how traffic will move through the corridor and construction timeline. • Concerns about noise, drainage in low lying areas of Goebel Park, and traffic impacts during construction and when incidents occur on the highway. • 4 comment forms returned at meeting.
November 28, 2022	Friends of Peaselburg neighborhood meeting (KY)	• 16 in attendance (excluding the project team). • Questions about how traffic will move through the corridor, construction timeline, and property impacts. • Concerns about noise, flooding in neighborhoods, truck traffic, and traffic during construction. • Supportive of refinements incorporated into the project. • 6 comment forms returned at meeting.
November 29, 2022	CBD Riverfront neighborhood meeting (OH)	• 24 in attendance (excluding the project team). • Concerns about the project footprint, multimodal accommodations, connections across I-75, project costs, and traffic volumes/operations. • 1 comment form returned at meeting.
November 29, 2022	Westside Covington neighborhood meeting (KY)	• 13 in attendance (excluding the project team). • Questions about how traffic will move through the corridor, construction timeline, project funding, and property impacts. • Concerns about noise. • 6 comment forms returned at meeting.

Date	Activity	Comments
November 30, 2022	Fort Mitchell neighborhood meeting (KY)	• 46 in attendance (excluding the project team). • Questions about how traffic will move through the corridor, construction timeline, and property impacts. • Concerns about noise and pedestrian safety in the Dixie Highway interchange area. • 5 comment forms returned at meeting.
December 1, 2022	Ft. Wright neighborhood meeting (KY)	• 57 in attendance (excluding the project team). • Questions about how traffic will move through the corridor, construction timeline, project funding, and property impacts. • Concerns about noise, traffic during construction, and truck traffic. • 12 comment forms returned at meeting.
December 5, 2022	Mutter Gottes/ Covington CBD neighborhood meeting (KY)	• 17 in attendance (excluding the project team). • Questions about how traffic will move through the corridor and construction timeline. • Concerns about noise, traffic during construction and incidents, and access for first responders. • 5 comment forms returned at meeting.
December 6, 2022	Lewisburg/Botany Hills neighborhood meeting (KY)	• 17 in attendance (excluding the project team) • Questions about how traffic will move through the corridor and multimodal accommodations. • Concerns about noise. • 1 comment form returned at meeting.
December 12, 2022	Camp Washington neighborhood meeting (OH)	• 9 in attendance (excluding the project team). • Questions about traffic volumes and operations, alternative design concepts, the design of the interchange at the Western Hills Viaduct, and property impacts. • Concerns about local access, damage to local roadways during construction, maintenance of ODOT-owned property. • 1 comment form returned at meeting.
December 12, 2022	Park Hills neighborhood meeting (KY)	• 42 in attendance (excluding the project team). • Questions about how traffic will move through the corridor, right-of-way acquisition, project schedule, project costs, and construction timeline. • Concerns about noise and truck traffic. • 1 comment form returned at meeting.

Date	Activity	Comments
December 13, 2022	Large-scale neighborhood meetings (OH)	• 12 in attendance (excluding the project team). • Open house-style format with 30-minute formal presentation • 2 comment forms returned at meeting.
December 14, 2022	Large-scale neighborhood meetings (KY)	• 81 in attendance (excluding the project team). • Open house-style format with 30-minute formal presentation • 4 comment forms returned at meeting.
December 20, 2022	West End neighborhood meeting (OH)	• 42 in attendance (excluding the project team). • Questions about alternative design concepts, project schedule, funding, and landscaping. • Concerns about noise and construction impacts. • 0 comment forms returned at meeting.
January 5, 2023	51 day comment period for targeted EJ/ neighborhood outreach ends	• PublicInput.com site viewed 2,559 times, and 218 individuals submitted comments or responded to polling questions. • Written comments received via mail and in-person • 373 total comments.
January 20, 2023	EJ/neighborhood outreach meeting summaries posted to project website	Each summary included: • Meeting details and statistics • Summary of comments/responses • Advertising materials • Sign-in sheets • Presentation (including narrative) • Photographs • Written comments
February 9, 2023	EJ/neighborhood outreach comments/responses published to project website	

Appendix E:
Project Mapping

Corridor Exhibit



Legend

- New Pavement
- New Bridge Deck
- Guardrail
- Retaining Wall
- Noise Barrier
- Noise / Visual Screening Barrier
- New or Widened Sidewalk
- New Shared-Use Path
- New Bike Lane
- Wetlands
- Streams
- Construction Impact on Stream or Wetland
- NRHP Listed or Eligible Site
- NRHP Historic District
- Community Resource
- Existing Right-of-Way
- Proposed Right-of-Way
- Proposed Permanent Easement
- Proposed Temporary Easement
- Existing Pavement Converted to Green Space
- Impacted Structure

Sheet 1 of 8

BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Department of Transportation Ohio

0 250 500 Feet

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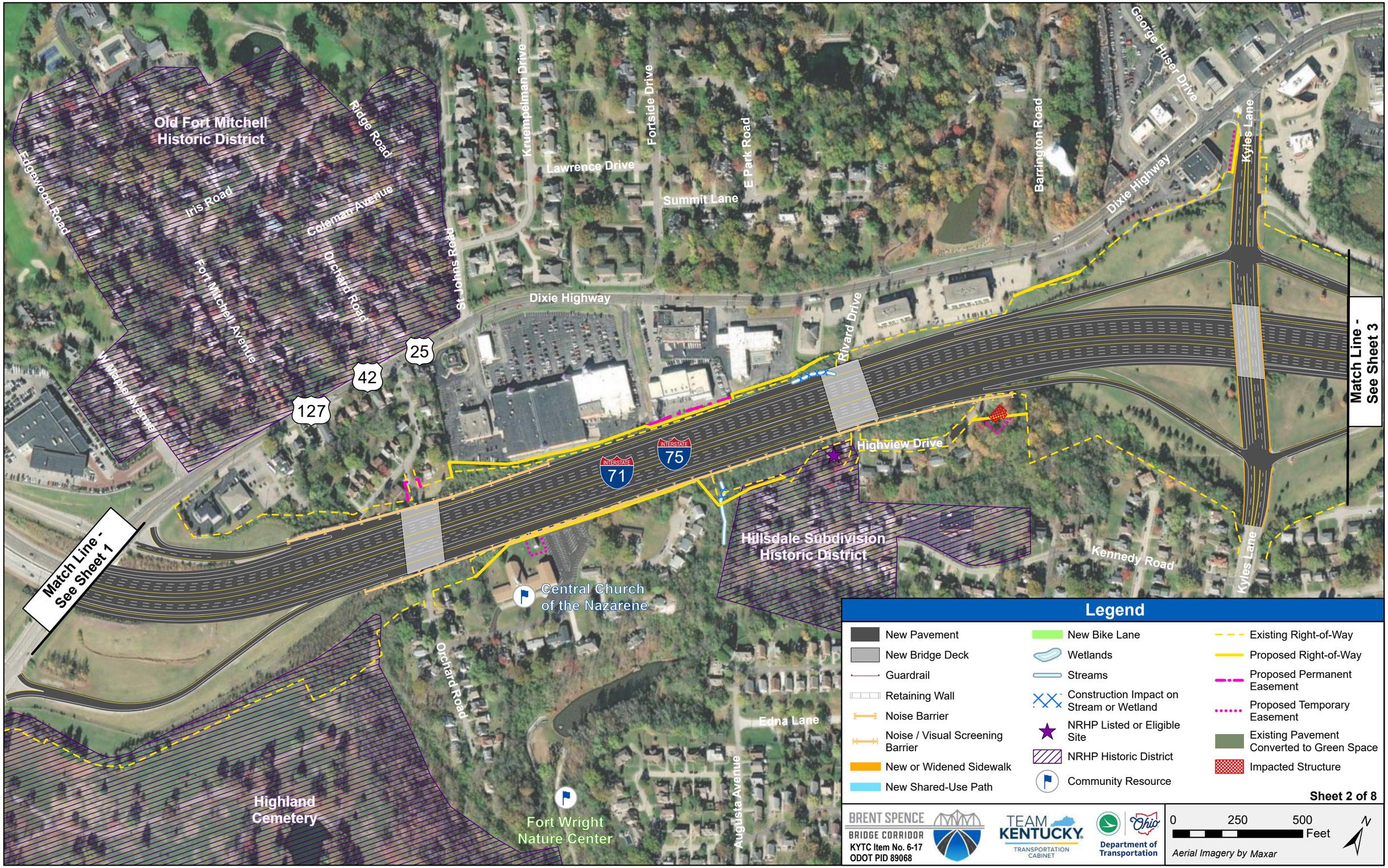
Aerial Imagery by Maxar

Corridor Exhibit



Legend

- New Pavement
- New Bridge Deck
- Guardrail
- Retaining Wall
- Noise Barrier
- Noise / Visual Screening Barrier
- New or Widened Sidewalk
- New Shared-Use Path
- New Bike Lane
- Wetlands
- Streams
- Construction Impact on Stream or Wetland
- NRHP Listed or Eligible Site
- NRHP Historic District
- Community Resource
- Existing Right-of-Way
- Proposed Right-of-Way
- Proposed Permanent Easement
- Proposed Temporary Easement
- Existing Pavement Converted to Green Space
- Impacted Structure

BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

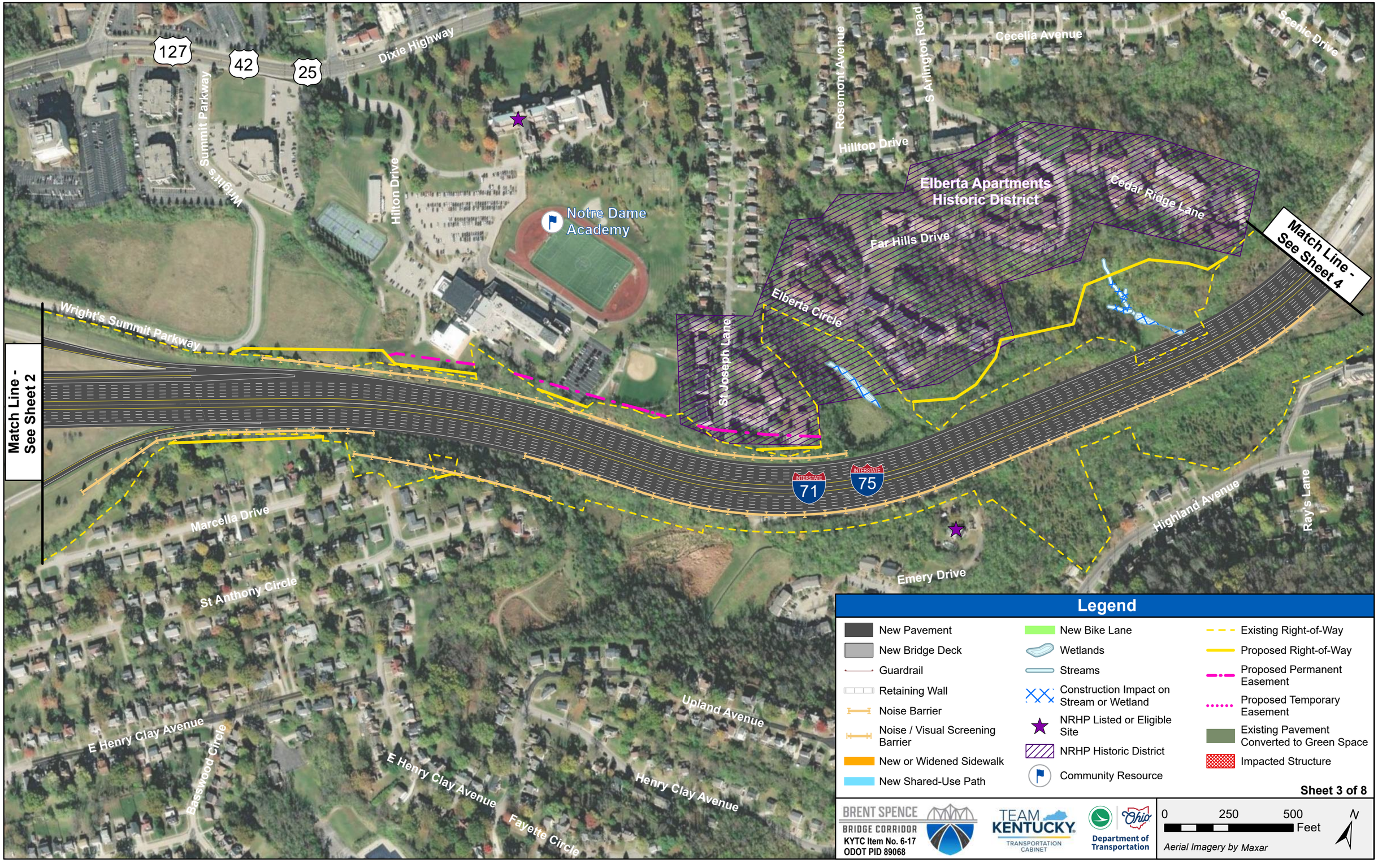
TEAM KENTUCKY TRANSPORTATION CABINET

Department of Transportation

0 250 500 Feet

Aerial Imagery by Maxar

Corridor Exhibit



Legend

- New Pavement
- New Bridge Deck
- Guardrail
- Retaining Wall
- Noise Barrier
- Noise / Visual Screening Barrier
- New or Widened Sidewalk
- New Shared-Use Path
- New Bike Lane
- Wetlands
- Streams
- Construction Impact on Stream or Wetland
- NRHP Listed or Eligible Site
- NRHP Historic District
- Community Resource
- Existing Right-of-Way
- Proposed Right-of-Way
- Proposed Permanent Easement
- Proposed Temporary Easement
- Existing Pavement Converted to Green Space
- Impacted Structure

BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Ohio Department of Transportation

0 250 500 Feet

N

Aerial Imagery by Maxar

Corridor Exhibit

Legend

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- Guardrail
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- Proposed Temporary Easement
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Sheet 4 of 8

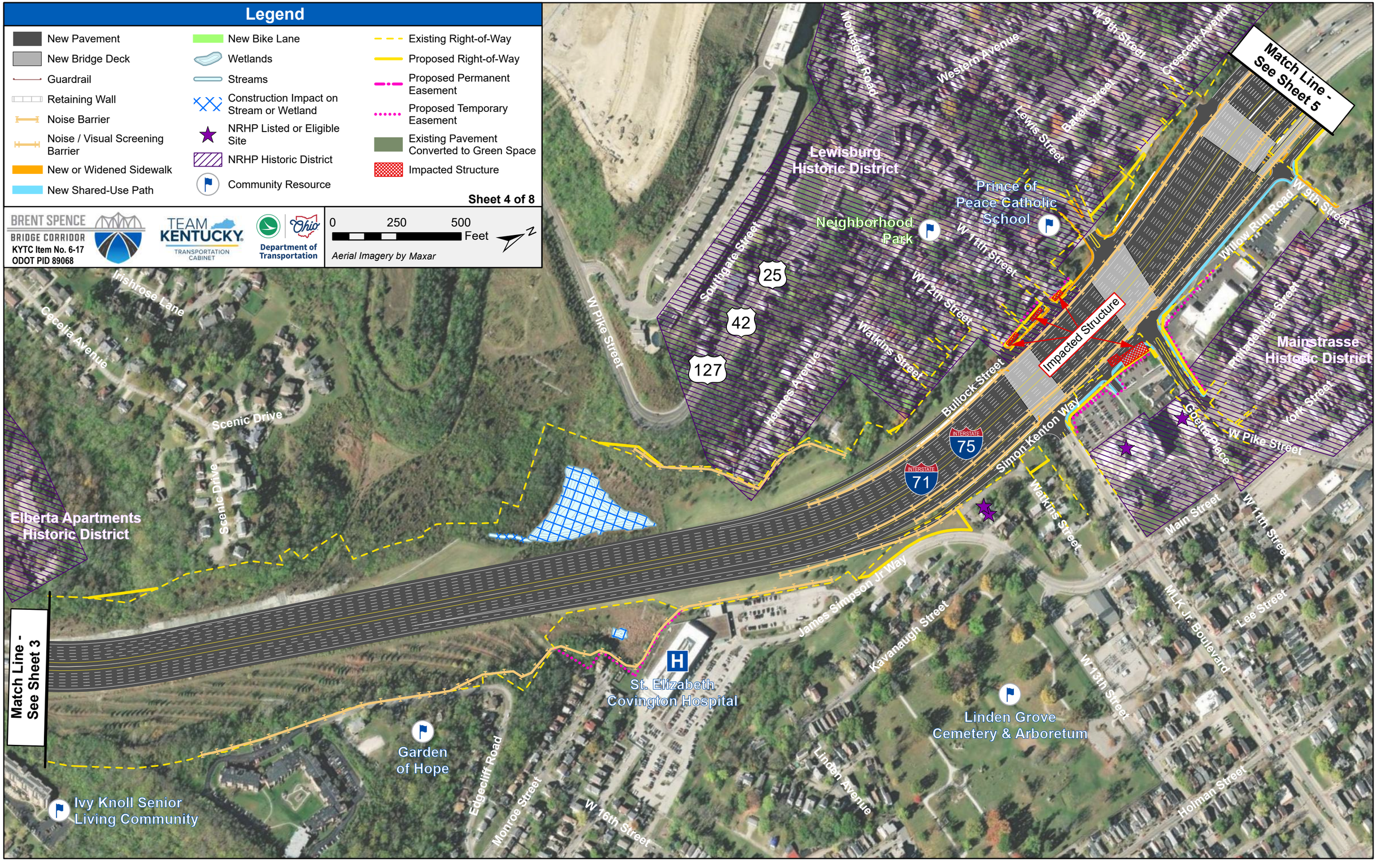
BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Department of Transportation | Ohio

0 250 500 Feet

Aerial Imagery by Maxar



Corridor Exhibit

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- Existing Pavement Converted to Green Space
- Impacted Structure

Sheet 5 of 8

BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Ohio Department of Transportation

0 250 500 Feet

N

Aerial Imagery by Maxar

Corridor Exhibit

Legend

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Sheet 6 of 8

BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Department of Transportation

0 250 500 Feet

N

Aerial Imagery by Maxar

Corridor Exhibit

Legend

- New Pavement
- New Bridge Deck
- Guardrail
- Retaining Wall
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- Noise / Visual Screening Barrier
- New or Widened Sidewalk
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- Wetlands
- Streams
- Construction Impact on Stream or Wetland
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- Proposed Right-of-Way
- Proposed Permanent Easement
- Proposed Temporary Easement
- Existing Pavement Converted to Green Space
- Impacted Structure

Sheet 7 of 8

BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Ohio Department of Transportation

0 250 500 Feet

N

Aerial Imagery by Maxar

Cincinnati Union Terminal
Dalton Avenue
Post Office
Findlay Street
Match Line - See Sheet 8
Lincoln Park - Union Terminal
Liberty Street
Western Avenue
Cincinnati Job Corps Center
Freeman Avenue
W 8th Street
Gest Street
52
75
Interstate
West End Community Garden
Dayton Street Historic District
Winchell Avenue
Highway cap with green space
Sands Playground
Baymiller Street
Lincoln Community Center
CAA Head Start
Ezzard Charles Drive
Wade Walk Baseball Field
Public Library
Linn Street
Match Line - See Sheet 6
St. Joseph Catholic School
Linn Livingston Park
Fire Station 29
Queensgate Playground and Ball Field
Court Street
Clark Street
Ezzard Charles Park
Derrick Turnbow Avenue
Wade Street
Laurel Park Drive
Laurel Playground
Poplar Street
Findlay Street
York Street
John Street
Cutter Street

Corridor Exhibit

Legend

- New Pavement
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- Guardrail
- Retaining Wall
- Noise Barrier
- Noise / Visual Screening Barrier
- New or Widened Sidewalk
- New Shared-Use Path
- New Bike Lane
- Wetlands
- Streams
- Construction Impact on Stream or Wetland
- NRHP Listed or Eligible Site
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- Community Resource
- Existing Right-of-Way
- Proposed Right-of-Way
- Proposed Permanent Easement
- Proposed Temporary Easement
- Existing Pavement Converted to Green Space
- Impacted Structure

Sheet 8 of 8

BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Ohio Department of Transportation

0 250 500 Feet

N

Aerial Imagery by Maxar

Connection to City of Cincinnati Western Hills Viaduct project

Western Hills Viaduct

Spring Grove Avenue

Dalton Avenue

Winchell Avenue

Match Line - See Sheet 7

Bank Street

Harrison Avenue

Patterson Street

Dayton Street Historic District

Colerain Avenue

Dyer Park

Central Avenue

Central Parkway

W McMicken Avenue

Klotter Avenue

Conroy Street

Central Parkway

W McMillan Street

West McMicken Avenue Historic District

Halstead Street

Western Hills Viaduct Subway Tunnel Portals

W McMicken Avenue

W McMillan Street

Fairview Park Road

Straight Street

Draper Street

Alfred Street

Cook Street

Straight Street

Colerain Avenue

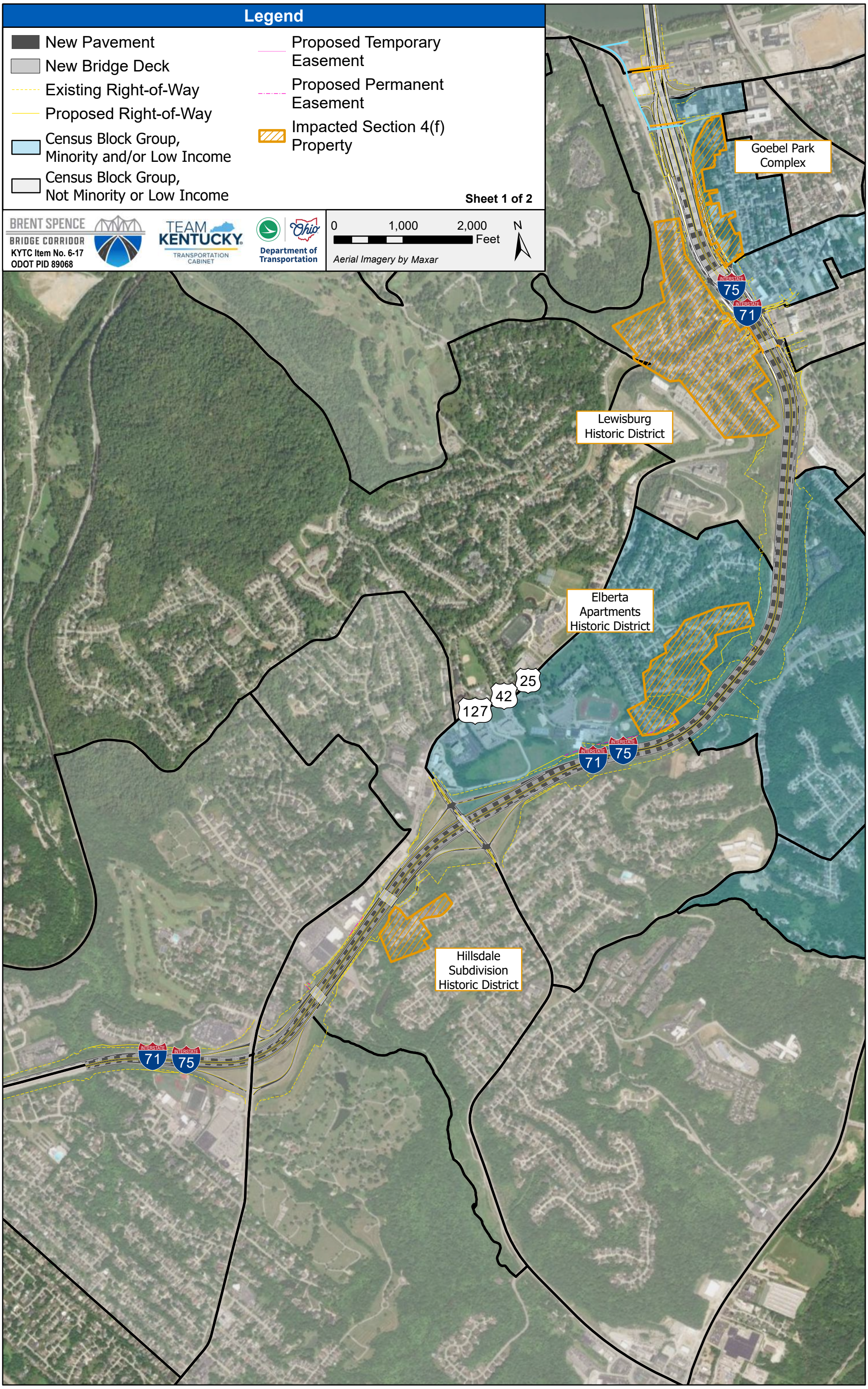
52

75

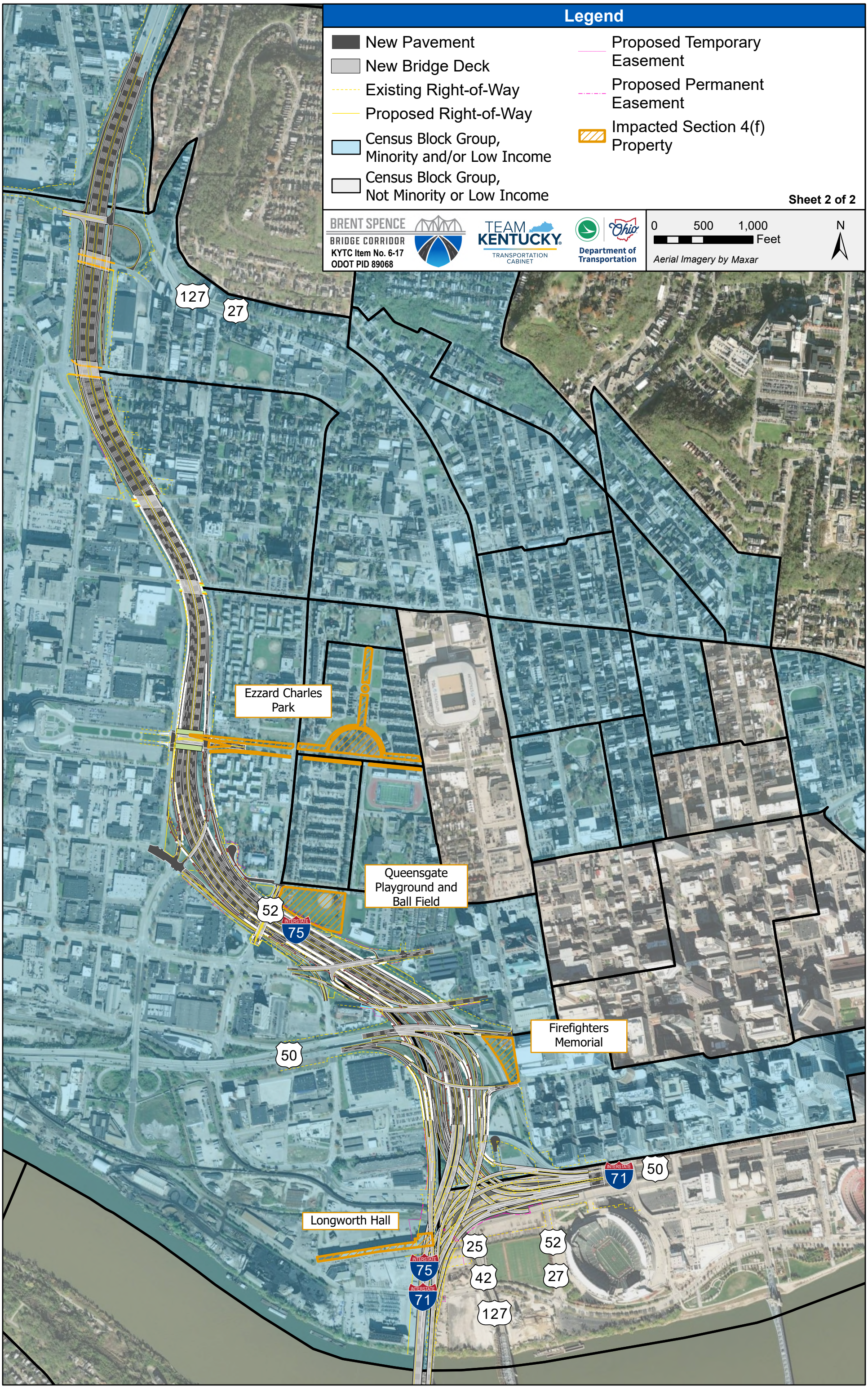
127

27

Section 4(f) Properties Exhibit



Section 4(f) Properties Exhibit



Multimodal Exhibit

Legend

- New Sidewalk
- Replace Existing Sidewalk
- New Bike Lane
- Existing Bike Lane
- Replace Existing Bike Lane
- New Shared-Use Path
- Existing Shared-Use Path
- Existing Sidewalk Trail
- Future Shared-Use Path
- New Pedestrian Bridge
- Existing Pavement Converted to Green Space
- Bus Stop
- # Bus Route

BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Ohio Department of Transportation

Sheet 1 of 5

0 200 400 Feet

Aerial Imagery by Maxar, Microsoft, Maxar

Southgate Street
127
42
25
W Pike Street
Western Avenue
Worth Street
Devou Park
Kenton Hills
Lewisburg
Hermes Avenue
Neighborhood Park
W Pike Street
Lewis Street
Baker Street
Devou Drive
Western Avenue
Crescent Avenue
W Watkins Street
W 12th Street
W 11th Street
W 9th Street
Bullock Street
INTERSTATE 71
INTERSTATE 75
James Simpson Jr Way
Simon Kenton Way
Kavanaugh Street
Kenney Shields Park
Neighborhood Pool
SFC Jason Bishop Memorial Dog Park
Goebel Park
Match Line - See Sheet 2
Path location to be determined
Westside
MLK Jr Boulevard
Goetta Place
W Pike Street
Philadelphia Street
Mainstrasse
Historic Linden Grove Cemetery & Arboretum
W 13th Street
Watkins Street
Main Street
W 11th Street
York Street
Perry Street
Philadelphia Street
Bakewell Street
W 7th Street
Main Street

Multimodal Exhibit

Legend

- New Sidewalk
- Replace Existing Sidewalk
- New Bike Lane
- Existing Bike Lane
- Replace Existing Bike Lane
- New Shared-Use Path
- Existing Shared-Use Path
- Existing Sidewalk Trail
- Future Shared-Use Path
- New Pedestrian Bridge
- Existing Pavement Converted to Green Space
- Bus Stop
- # Bus Route

BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Ohio Department of Transportation

Sheet 2 of 5

0 200 400 Feet

Aerial Imagery by Maxar, Microsoft

N

Match Line - See Sheet 1

Break Line - See Sheet 3

Wright Street

Botany Hills

Western Avenue

Highway Avenue

Crescent Avenue

W 3rd Street

Ohio River

New Companion Bridge

Existing Brent Spence Bridge

INTERSTATE 71

INTERSTATE 75

Path location to be determined

Goebel Park

Dalton Street

W 7th Street

W 6th Street

W 5th Street

W 4th Street

Philadelphia Street

Central Business District

Bakewell Street

Southbank Shuttle

40X 39X 8 7 5 3 1

Clay Wade Bailey Bridge

Kentucky

Ohio

George Steinford Park

Mainstrasse

Multimodal Exhibit

Legend

- New Sidewalk
- Replace Existing Sidewalk
- New Bike Lane
- Existing Bike Lane
- Replace Existing Bike Lane
- New Shared-Use Path
- Existing Shared-Use Path
- Existing Sidewalk Trail
- Future Shared-Use Path
- New Pedestrian Bridge
- Existing Pavement Converted to Green Space
- Bus Stop
- # Bus Route

BRENT SPENCE BRIDGE CORRIDOR

KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Ohio Department of Transportation

Sheet 3 of 5

0 200 400 Feet

Aerial Imagery by Maxar, Microsoft, Maxar

N

Break Line - See Sheet 2

Match Line - See Sheet 4

Gest Street

6th Street Expressway EB

6th Street Expressway WB

W 8th Street

W 3rd Street

Queensgate

CBD Riverfront

Clay Wade Bailey Bridge

W Pete Rose Way

W 2nd Street

Paul Brown Stadium

Central Avenue

W 4th Street

W 5th Street

W 6thStreet

Firefighters Memorial

W 7th Street

West End

W 9thStreet

27 (On Third St.)

INTERSTATE 71

INTERSTATE 75

52

27 27 27 27 27 85 85 85 74X 52X 42X 23X 40 33 32 15 49 49 32 33 40 67

Multimodal Exhibit

Legend

- New Sidewalk
- Replace Existing Sidewalk
- New Bike Lane
- Existing Bike Lane
- Replace Existing Bike Lane
- New Shared-Use Path
- Existing Shared-Use Path
- Existing Sidewalk Trail
- Future Shared-Use Path
- New Pedestrian Bridge
- Existing Pavement Converted to Green Space
- Bus Stop
- # Bus Route

BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Ohio Department of Transportation

Sheet 4 of 5

0 200 400 Feet

Aerial Imagery by Maxar, Microsoft, Maxar

N

Queensgate
Lincoln Park - Union Terminal
Gest Street
Liberty Street
W 8th Street
Freeman Avenue
Western Avenue
Winchell Avenue
Mitchell Avenue
Match Line - See Sheet 5
49
49 (On Ezzard Charles Dr.)
16
52
75
INTERSTATE
Highway cap with green space
West End
Wade Walk Baseball Field
Lincoln Community Center
Court Street
Linn Street
Clark Street
Ezzard Charles Drive
Derrick Turnbow Avenue
Wade Street
Queensgate Playground and Ball Field
Match Line - See Sheet 3
32
33
27
67

Multimodal Exhibit

Legend

- New Sidewalk
- Replace Existing Sidewalk
- New Bike Lane
- Existing Bike Lane
- Replace Existing Bike Lane
- New Shared-Use Path
- Existing Shared-Use Path
- Existing Sidewalk Trail
- Future Shared-Use Path
- New Pedestrian Bridge
- Existing Pavement Converted to Green Space
- Bus Stop
- # Bus Route

BRENT SPENCE BRIDGE CORRIDOR
KYTC Item No. 6-17
ODOT PID 89068

TEAM KENTUCKY TRANSPORTATION CABINET

Ohio Department of Transportation

Sheet 5 of 5

0 200 400 Feet

Aerial Imagery by Maxar, Microsoft, Maxar

N

Connection to City of Cincinnati Western Hills Viaduct project

Western Hills Viaduct

Spring Grove Avenue

49 31 16

16 49

16 27 49

16 27 49

(On Bank St.) 31 27

27 (On Bank St.)

52

INTERSTATE 75

16 31 49

Dalton Avenue

16 31 49

16 31 49

Winchell Avenue

West End

Bank Street

Harrison Avenue

Central Parkway

W McMillan Street

127

27

64 31

W McMicken Avenue

31 64

Western Avenue

Winchell Avenue

Findlay Street

York Street

Dayton Street

31 27

31 27

Freeman Avenue

Poplar Street

Patterson Street

27 31

Colerain Avenue

21 20 6

6 20 21

Kindel Avenue

64 31

Freeman Avenue

27 31

Dyer Park

Central Avenue

Central Parkway

W McMicken Avenue

31 64

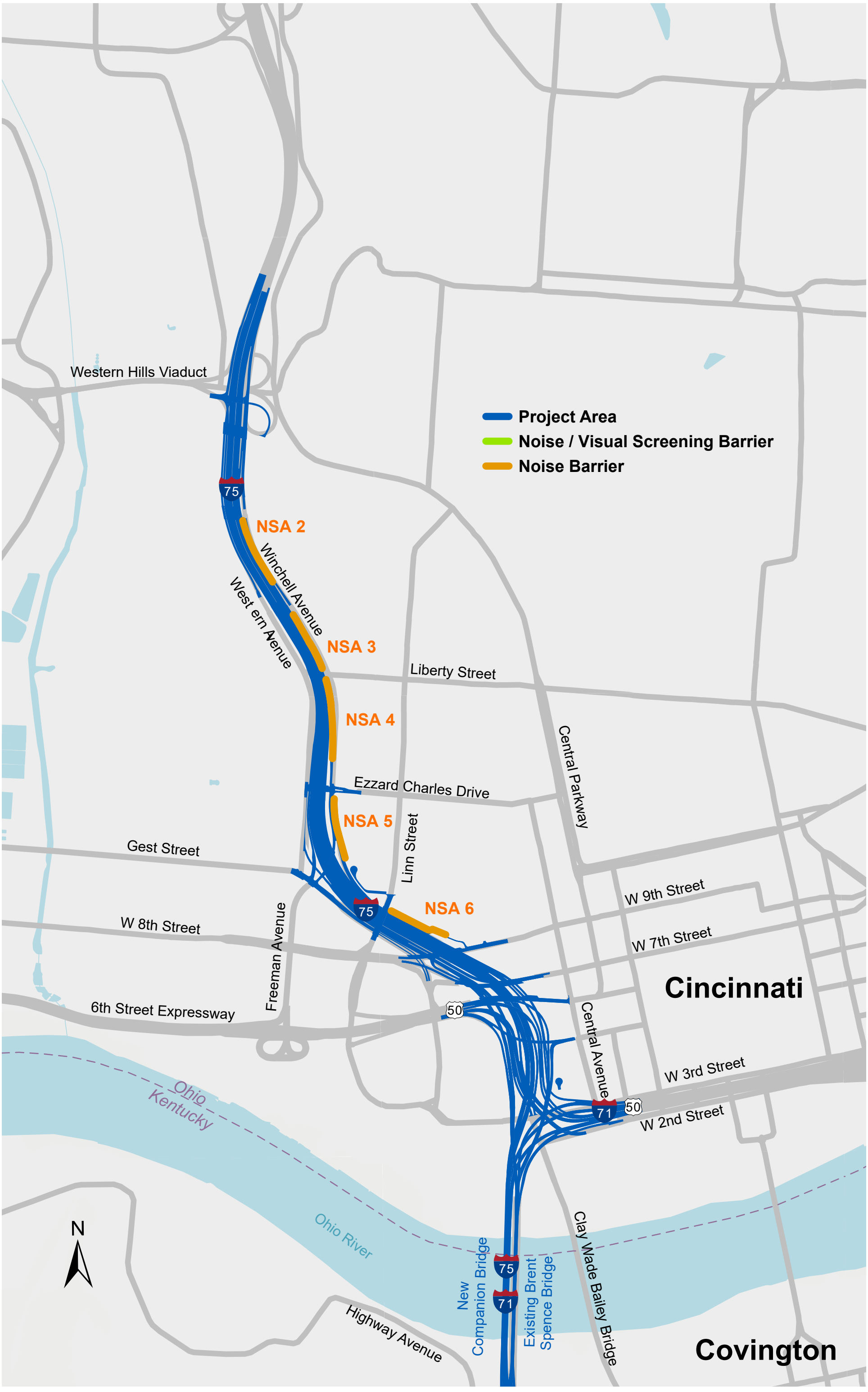
Kloter Avenue

Conroy Street

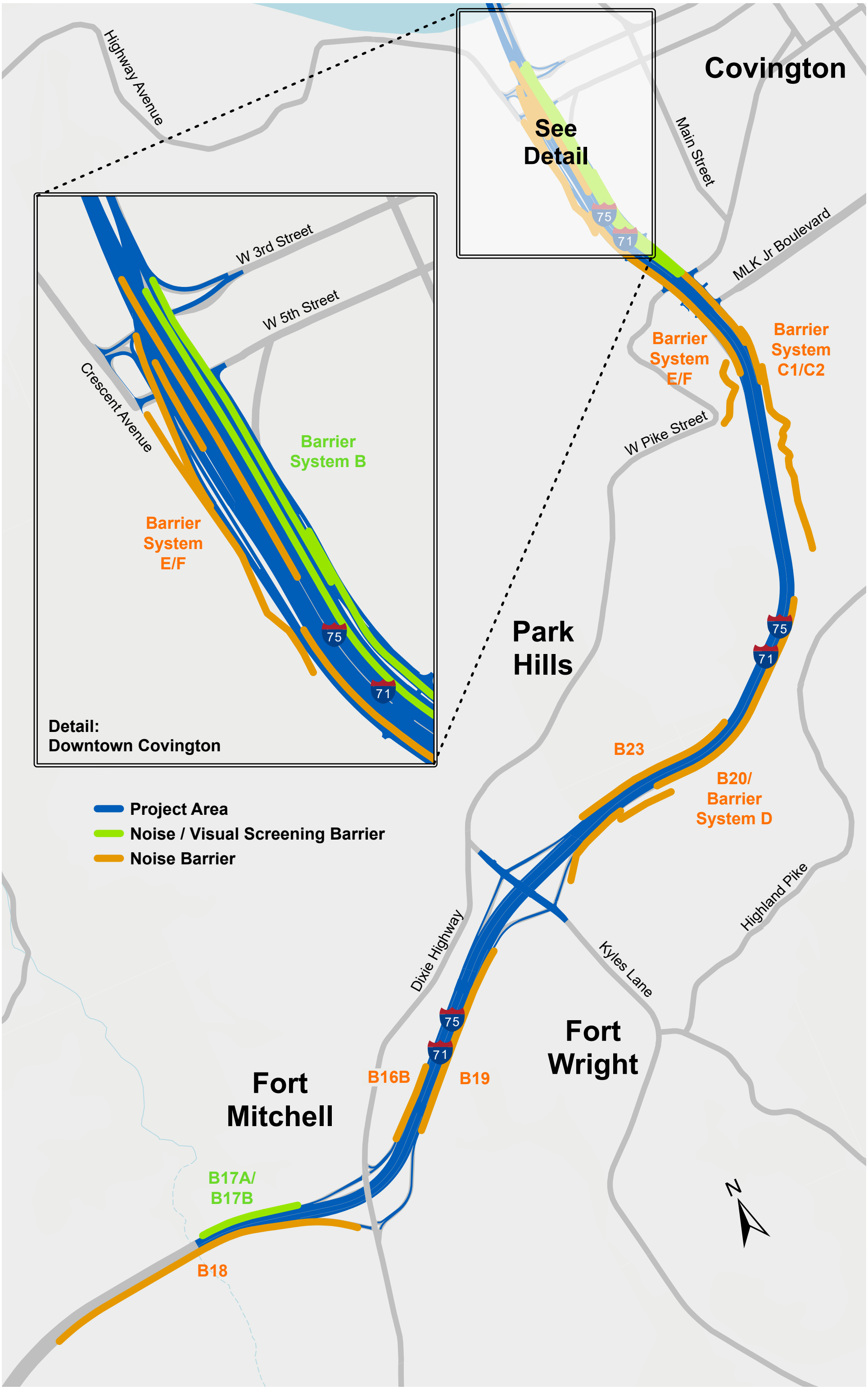
Fairview Park Road

Match Line - See Sheet 4

Noise Schematic



Noise Schematic



Appendix F:
Resource Cross Reference Guide

Brent Spence Bridge Corridor Project
Resource Cross Reference Guide

	State	U.S. Census Block Group (Map ID)	Minority[1]	Low-Income[1]	Noise Analysis Location
Neighborhoods/Cities Adjacent to the Project Corridor					
Fort Mitchell	KY	71, 72, 74, 75, 76	No	No	16A, B16B, B17A, B17B, B18 (KY-S)
Fort Wright	KY	63, 69, 71, 72, 73, 74, 76	No	Yes	B19, B20 (KY-S)
Park Hills	KY	38, 63, 64, 69	No	Yes	B23 (KY-S) NSA D (KY-N)
Peaselburg	KY	57, 58, 63, 64, 65, 66, 67, 69, 70	Yes	Yes	B23 (KY-S) NCA C, D (KY-N)
Lewisburg	KY	38, 39, 47, 48, 57, 63, 64	No	Yes	(KY-S) NSA B, F (KY-N)
Westside	KY	41, 47, 48, 49, 55, 57, 58, 59	Yes	Yes	NSA B, C (KY-N)
Mainstrasse	KY	39, 40, 47	No	Yes	NSA B (KY-N)
Covington Central Business District	KY	33, 39, 40, 41, 49	Yes	Yes	NSA A (KY-N)
Botany Hills	KY	30, 31, 32, 33, 37, 38, 39	No	Yes	NSA E (KY-N)
Cincinnati CBD Riverfront	OH	23, 25, 26, 27, 28, 29	Yes	No	NSA 7, 8, 9 (OH)
Queensgate	OH	4	Yes	Yes	West of I-75 (OH)[3]
West End	OH	4, 5, 6, 11, 12, 13, 14, 15, 16, 24, 25, 26	Yes	Yes	NSA 2, 3, 4, 5, 6 (OH)
CUF	OH	2, 3, 6	Yes	Yes	NSA 1 (OH)
Camp Washington	OH	1	No	Yes	West of I-75 (OH)[3]

Brent Spence Bridge Corridor Project
Resource Cross Reference Guide

	State	U.S. Census Block Group (Map ID)	Minority[1]	Low-Income[1]	Noise Analysis Location[2]
Impacted Public Recreational Properties					
Goebel Park Complex	KY	39	No	Yes	NSA B (KY-N)
Firefighters Memorial	OH	28	Yes	No	NSA 7 (OH)
Queensgate Playground and Ball Field	OH	24	Yes	Yes	NSA 6 (OH)
Ezzard Charles Park	OH	11, 13, 14, 15	Yes	Yes	NSA 4, 5 (OH)
Lewis and Clark National Historic Trail	Ohio River	N/A	N/A	N/A	N/A
Impacted Historic Properties					
Hillsdale Subdivision Historic District	KY	72	No	No	B19 (KY-S)
Elberta Apartments Historic District	KY	63	No	Yes	B23 (KY-S)
Lewisburg Historic District	KY	38	No	No	NSA F (KY-N)
Longworth Hall	OH	4	Yes	Yes	West of I-75 (OH)[3]

Notes:

1. A "Yes" indicates presence in one or more census block group occupied by the resource.
2. Noise senstive areas are identified by the noise report in which they are addressed: Southern Kentucky (KY-S), Northern Kentucky (KY-N), and Ohio (OH).
3. The Ohio Noise Report did not designate a noise sensitive area west of I-75.